



MARKET OVERVIEW & BACKGROUND RESEARCH

HOUSING OPPORTUNITIES MASTER PLAN
HOWARD COUNTY, MARYLAND

Prepared for the Department of Housing and Community Development
June 30, 2021

ABOUT RCLCO



Since 1967, RCLCO has been the “first call” for real estate developers, investors, the public sector, and non-real estate companies and organizations seeking strategic and tactical advice regarding property investment, planning, and development.

RCLCO leverages quantitative analytics and a strategic planning framework to provide end-to-end business planning and implementation solutions at an entity, portfolio, or project level. With the insights and experience gained over 50 years and thousands of projects—touching over \$5B of real estate activity each year—RCLCO brings success to all product types across the United States and around the world.

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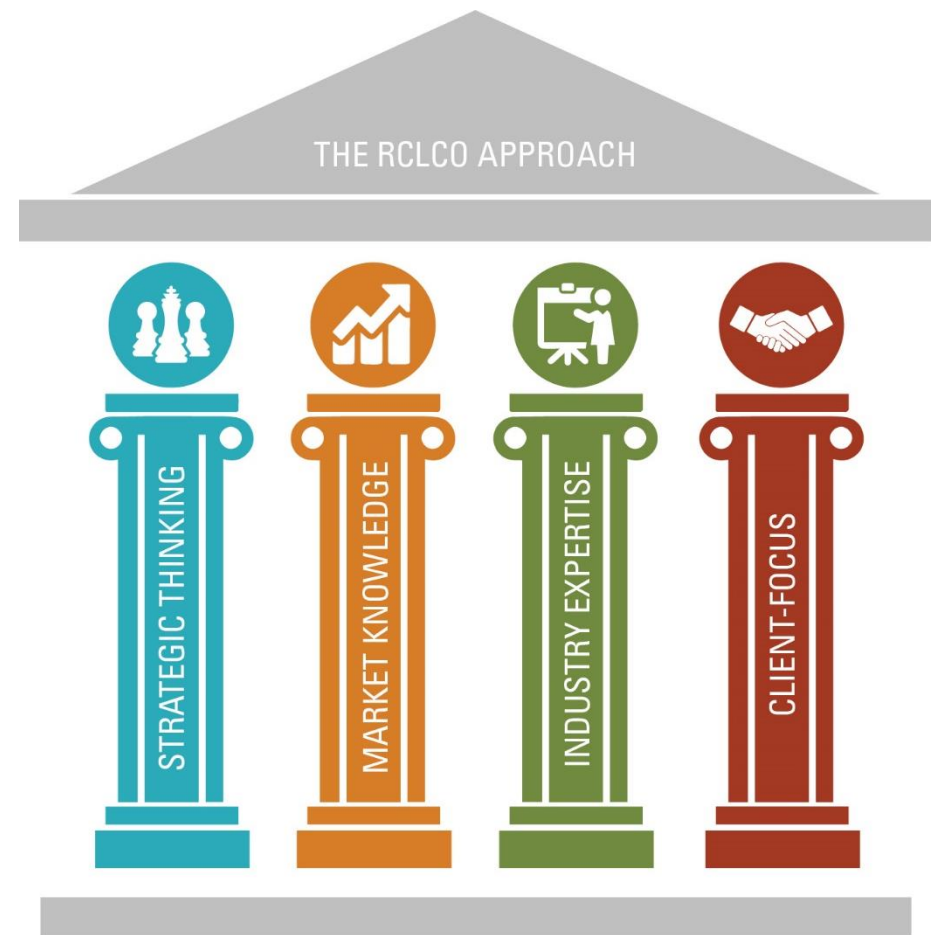
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OBJECTIVES

In January 2020, Howard County selected RCLCO to develop a comprehensive plan for expanding housing opportunities in Howard County. The project team also includes Neighborhood Fundamentals, which provides research and technical assistance on issues related to housing policy and affordability; JMT, which manages community planning and meeting facilitation; and PRR, which specializes in public and environmental justice outreach.

As part of this effort, RCLCO conducted detailed research on the housing market in Howard County, with the goal of understanding housing affordability, housing inventory, and demand dynamics today. This appendix is intended to provide a summary of this research, which was used to inform the recommendations in the Housing Opportunities Master Plan.

Specifically, the following appendix is intended to:

- ▶ Assemble and review existing data on the housing market and housing needs;
- ▶ Evaluate County characteristics using demographic and GIS mapping by County sub-areas; and
- ▶ Identify current locations of affordable housing by type, including both rental and homeownership units.

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KEY FINDINGS

KEY FINDINGS

GROWTH & DEMOGRAPHICS

- ▶ The region is growing as new jobs are created, and these jobs are bringing more workers to the area than the amount of new housing that is being built.
- ▶ Howard County is more affluent than its neighbors, and it has more families and middle-aged households. This dynamic is partially created by its housing supply, coupled with the other factors that make the County a desirable place to live, and then reinforced by limited new supply additions.
- ▶ Far fewer people who are employed in Howard County also live there, compared to nearly every other jurisdiction in the Washington-Baltimore region, and there is little variance by income. Howard County has less housing than it needs across all household types and income bands, and it is not building enough to keep up with job growth.

HOUSING SUPPLY & DEMAND

- ▶ Howard County is underbuilding new housing given the size of its workforce. The County has a lower ratio of housing units to jobs than other nearby jurisdictions, and it requires more than 20,000 additional housing units to catch up to these areas.
- ▶ Most new housing being built by the market is affordable to households making more than 80% of AMI (rental) and more than 120% of AMI (for-sale).
- ▶ Just 9% of housing in Howard County is affordable to households making less than 60% AMI, and virtually no for-sale homes that have been built in the last two decades are affordable to this group.
- ▶ For all of these reasons, Howard County has less than its fair share of low- and moderate-income households than other nearby counties.

HOUSING AFFORDABILITY

- ▶ The vast majority of low-income renters are spending more than 30% of their incomes on housing. In Howard County, three-quarters of such “cost-burdened” renters make less than 60% of AMI.
- ▶ Meanwhile, a lack of for-sale housing is contributing to cost burdens at all income levels. In Howard County, the number of owners that spend 30% or more of their incomes on housing is equally split between households making less than 80% of AMI and households making more than 80% of AMI.
- ▶ Cost burdens are disproportionately felt by diverse populations, both for rental and for-sale housing.
- ▶ Today, underserved groups in Howard County include market-rate families, workforce families, seniors, low-income renters, and professionals and other renters-by-choice. In almost all cases, these households require a greater amount and diversity of housing than what exists today.

Source: RCLCO

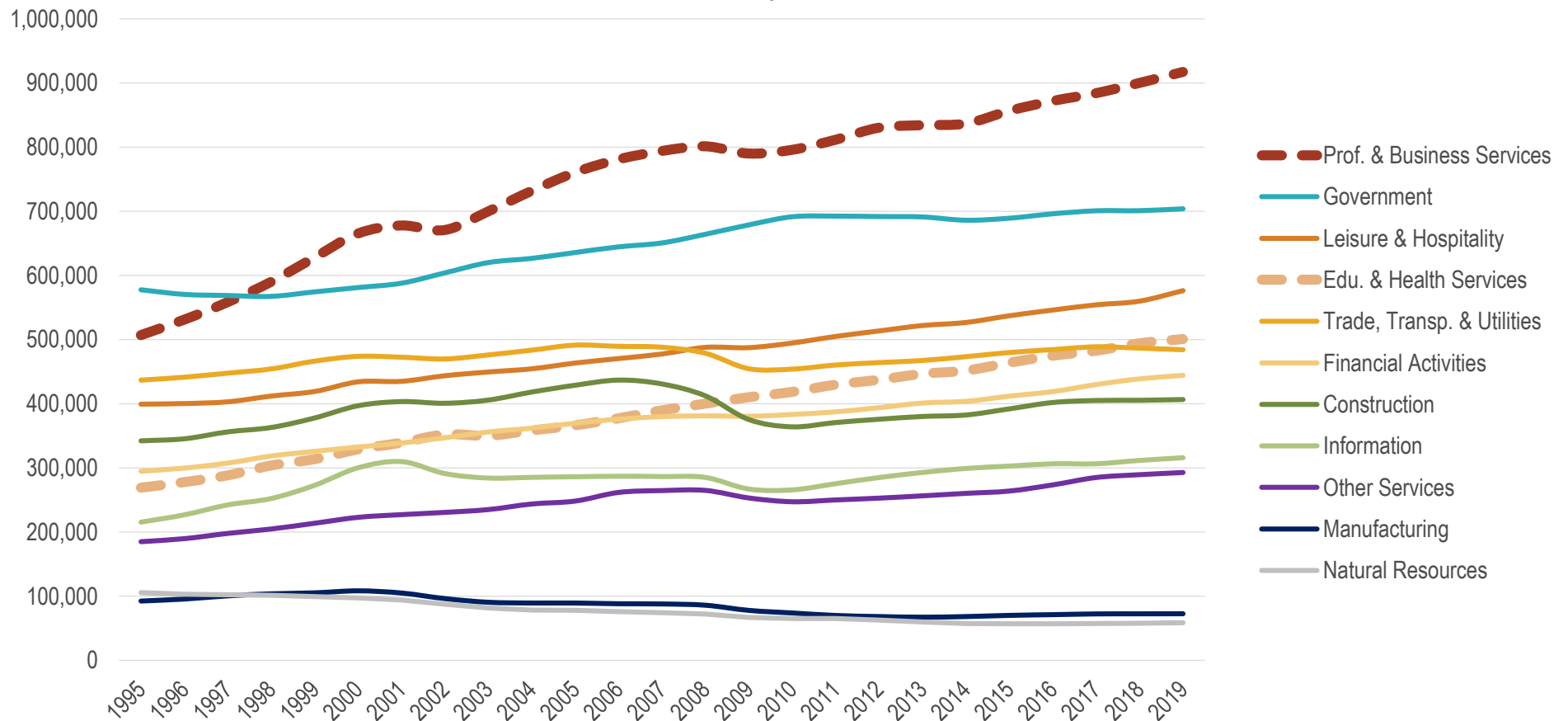
MARKET UNDERSTANDING

REGIONAL EMPLOYMENT GROWTH

THE REGION IS GROWING RAPIDLY, AND THAT GROWTH IS PLACING SIGNIFICANT PRESSURE ON LOCAL HOUSING MARKETS

- Between 2010 and 2019, the Washington-Arlington-Alexandria and Baltimore-Columbia-Towson Metropolitan Statistical Areas (“MSAs”) added more than 500,000 jobs, fueling a need for housing across the region. In addition, approximately 35% of these new jobs are in Professional & Business Services and Education & Health Services, suggesting that much of this employment growth is attracting a well-educated and highly paid workforce, in particular.

**Historical Employment by Industry, 1995-2019;
Combined Washington and Baltimore MSAs**



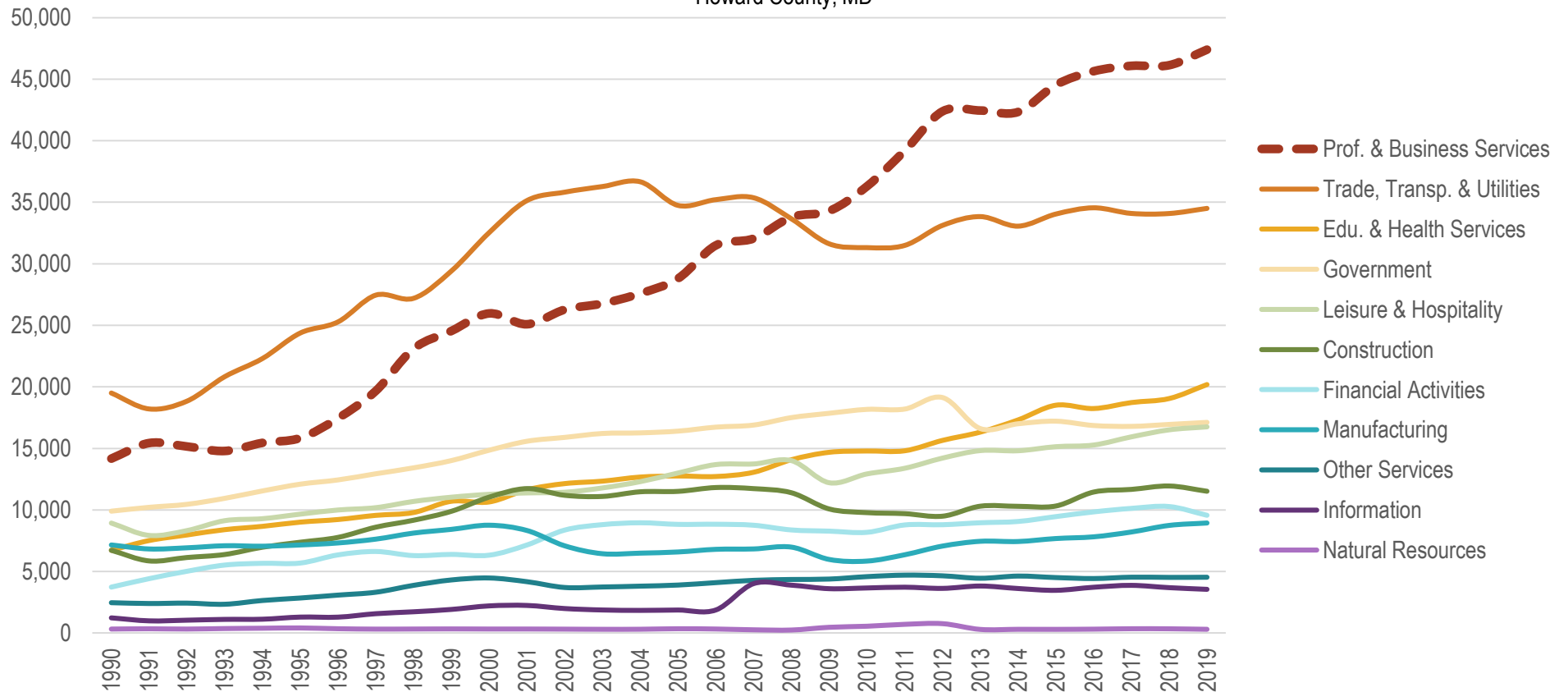
Source: Moody's Analytics

LOCAL EMPLOYMENT GROWTH

HOWARD COUNTY IN PARTICULAR HAS EXPERIENCED SIGNIFICANT JOB GROWTH IN RECENT YEARS, IN PART DUE TO THE FACT THAT IT IS AN ATTRACTIVE PLACE FOR EMPLOYEES TO LIVE

- Over the last ten years, Howard County has added an average of more than 3,000 jobs each year, with a significant and growing share of these jobs being in the Professional & Business Services sector. This rapid job growth is partially attributable to the fact that Howard County is an appealing residential location for the executives and employees at these companies. In order to sustain economic growth, Howard County must therefore ensure that it remains an attractive and viable place for these individuals to live.

Historical Employment by Sector, 1990-2019;
Howard County, MD



Source: Bureau of Labor Statistics; RCLCO

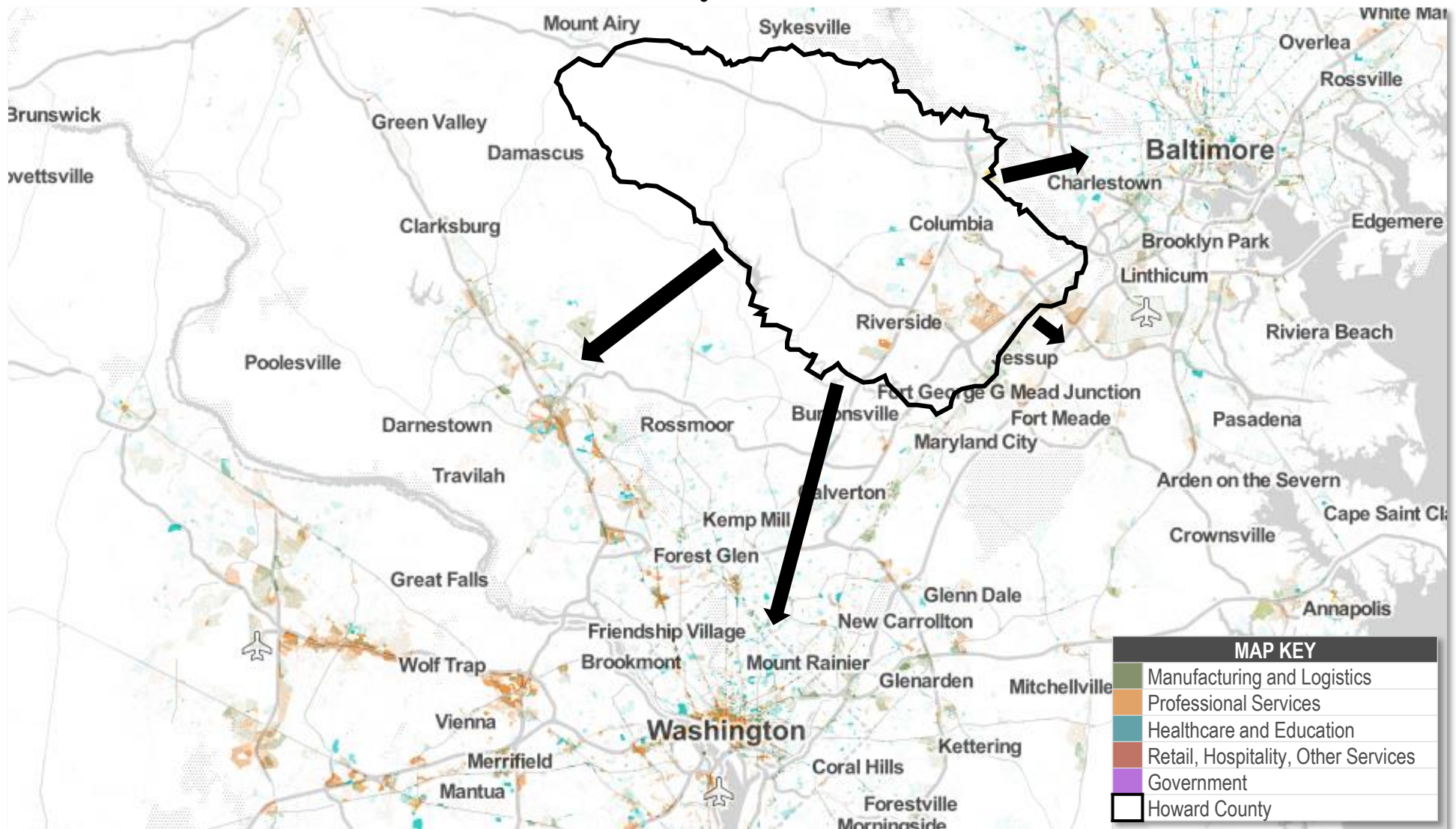
DRIVERS OF GROWTH

DRIVERS OF POPULATION GROWTH	PERSISTENCE AND RISKS
Regional Accessibility <ul style="list-style-type: none"> I-95, I-70, and Route 1 all run through Howard County, providing easy access to employment and recreational opportunities in Baltimore, the District, and various other parts of the region 	Structural Howard County is likely to remain accessible to locations across the Washington-Baltimore region
Growing Employment and Wages <ul style="list-style-type: none"> Although Government has historically been the largest employment driver in the Washington-Baltimore region, many of its new jobs are in the private sector, in high-paying industries like Professional & Business Services and Education & Health Services More than 500,000 jobs have been added to the Washington-Baltimore region since 2010, including 34,000 in Howard County Average weekly wages in Howard County have grown by nearly 25% since 2010 	Structural and Cyclical Although the local and regional economies are diversifying, employment and wage growth are still at risk of economic downturns, especially since new private sector jobs are typically more susceptible to macroeconomic conditions
Strong School District <ul style="list-style-type: none"> Howard County is home to a strong public school system. For the 2019-2020 school year, data compiler Niche ranked Howard County first on its list of best school districts in the State of Maryland, as well as second on its list of districts with best teachers 	Structural The quality of schools in Howard County is likely to remain high, though other districts may improve over time
Safety <ul style="list-style-type: none"> In 2017, Howard County had the tenth lowest crime rate per 100,000 people in the State of Maryland, ranking it above 14 other counties, including both Anne Arundel County and Baltimore County WalletHub ranks Columbia as the “safest” city in the United States, based on a variety of crime and financial risk-related factors 	Structural Crime may change over time, but there is a sizable gap between the rates for Howard County and Anne Arundel (25% higher) and Baltimore (74% higher) Counties
Diversity of Neighborhood Environments <ul style="list-style-type: none"> Howard County has a broad mix of rural areas, established neighborhoods, and newer suburbs Downtown Columbia is continuing to urbanize, providing a range of amenities for residents of Howard County Rolling Stone Magazine recently ranked Merriweather Post Pavilion as the fourth best amphitheater in the country 	Structural It is possible that other suburban counties will urbanize and diversify as well, but Downtown Columbia remains differentiated in a way that separates Howard County
Quality of Life <ul style="list-style-type: none"> Howard County offers easy access to employment and cultural opportunities, making it a desirable place to live USA Today ranked Howard County as the seventh best county in which to live based on education, poverty, and life expectancy rates 	Structural Howard County will continue to offer easy access to employment and cultural opportunities
DRIVERS OF EMPLOYMENT GROWTH	PERSISTENCE AND RISKS
Access to Transportation Networks <ul style="list-style-type: none"> A number of major transportation corridors run through Howard County, including I-95, I-70, and Route 1 Baltimore / Washington International Airport (“BWI”) is also nearby, and runs 650 domestic and international flights daily 	Structural Howard County will continue to be well-located and accessible for people across the region and country
Connectivity to Major Cities <ul style="list-style-type: none"> Howard County is located directly between Washington, D.C., and Baltimore, MD, allowing it to pull from labor markets and customer bases in both directions. The County is also easily accessible to other cities along the eastern seaboard. 	Structural Proximity to both Washington, D.C., and Baltimore, MD, will remain a major locational benefit of Howard County
Talented Workforce <ul style="list-style-type: none"> Washington, D.C., is ranked fourth in terms of tech talent density in major metropolitan areas, according to CBRE. The same report ranks the Washington, D.C., market second in terms of educational attainment. 62% of adults in Howard County have a Bachelors degree or higher, well-above statewide (39%) and national (31%) averages. 	Structural The job makeup of Howard County and the surrounding region will continue to attract educated employees

Source: Moody’s Analytics; BLS; Niche; Maryland Statistical Analysis Center; Rolling Stone Magazine; USA Today; CBRE; Howard County Economic Development Authority; RCLCO

ACCESSIBLE TO JOBS IN THE REGION

Heat Map of Jobs, 2017;
Combined Washington and Baltimore MSAs



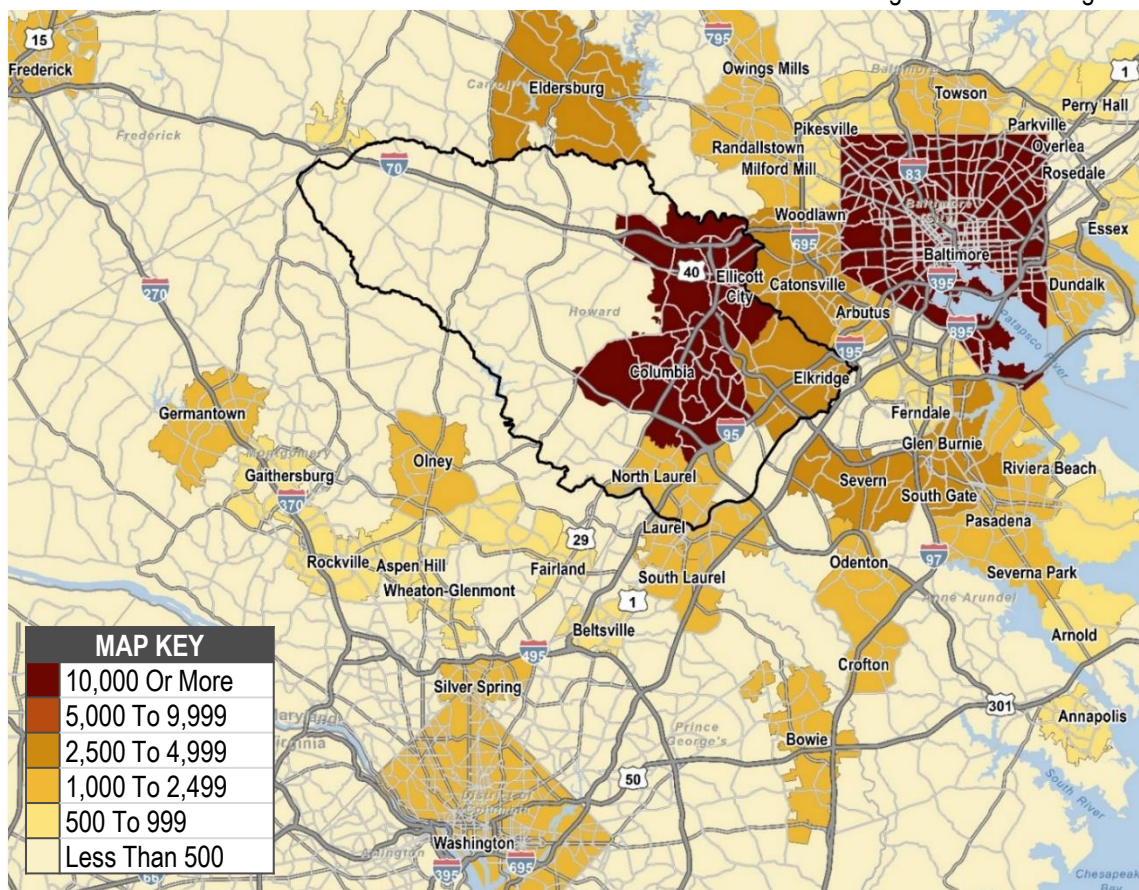
Source: Robert Manduca; RCLCO

COMMUTE PATTERNS

A SUBSTANTIAL PORTION OF PEOPLE WHO WORK IN HOWARD COUNTY LIVE ELSEWHERE IN THE REGION

- According to data from the Longitudinal Employer-Household Dynamics (“LEHD”) program of the Center for Economic Studies at the U.S. Census Bureau, approximately 25% of people who work in Howard County also live in the County. Meanwhile, a sizable portion of local employees live in other jurisdictions, such as Baltimore County, Anne Arundel County, and Carroll County.

**Residences of People Who Work in Howard County, 2017;
Washington-Baltimore Region**



NAME	COUNTY	EMPLOYEES	
		#	%
Columbia	Howard County	16,234	9.0%
Baltimore	Baltimore County	14,211	7.9%
Ellicott City	Howard County	10,147	5.6%
Ilchester	Howard County	3,903	2.2%
Glen Burnie	Anne Arundel County	3,356	1.9%
Eldersburg	Carroll County	3,331	1.8%
Severn	Anne Arundel County	3,167	1.8%
Catonsville	Baltimore County	3,109	1.7%
Elkridge	Howard County	2,772	1.5%
Woodlawn	Baltimore County	2,517	1.4%
North Laurel	Howard County	2,408	1.3%
Odenton	Anne Arundel County	2,002	1.1%
Arbutus	Baltimore County	1,970	1.1%
Laurel	Prince George's County	1,809	1.0%
Washington	District of Columbia	1,704	0.9%
Montgomery County		16,255	9.0%
Other Anne Arundel County		14,185	7.8%
Other Howard County		10,314	5.7%
Other Carroll County		6,819	3.8%
Other Baltimore County		5,489	3.0%
Other		55,071	30.5%
TOTAL		180,773	100.0%
TOTAL IN HOWARD COUNTY		45,778	25.3%

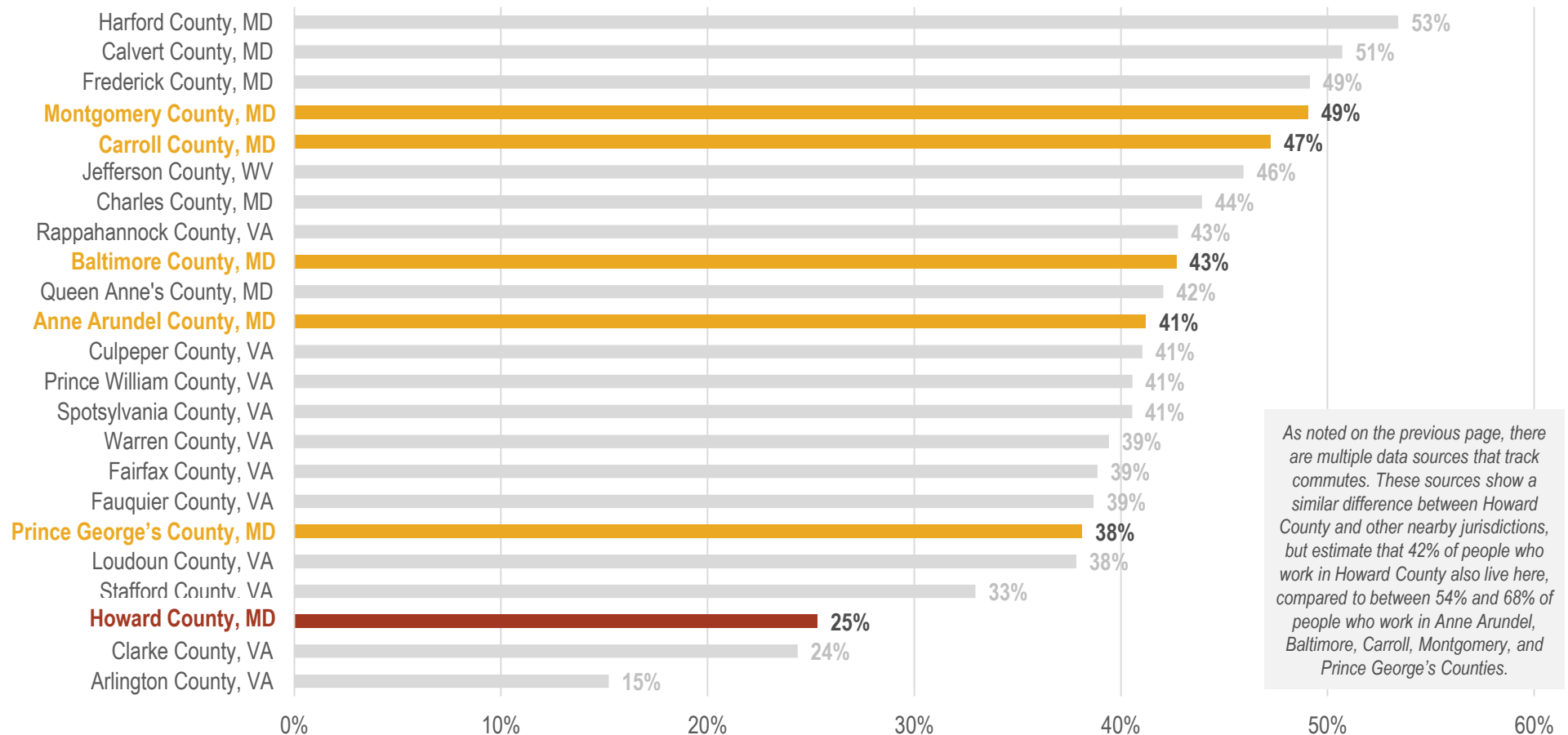
Note: Above map and table use data from the Longitudinal Employer-Household Dynamics (“LEHD”) program. Additional data is tracked by the American Community Survey (“ACS”), which shows that a slightly higher proportion (42.2%) of people who work in Howard County also live in the county. ACS does not provide as detailed information about the locations from which non-residents commute.

Source: Census OnTheMap; RCLCO

FEWER PEOPLE LIVE AND WORK IN HOWARD COUNTY THAN THEY DO IN OTHER NEARBY JURISDICTIONS

- This mismatch suggests that there are likely many people who already work in Howard County, and are therefore already a part of its community, who would choose to live in the County if the right type and/or price point of housing existed for them.

Share of Employees in Howard County That Also Live in Howard County, 2017;
Various Counties in Washington-Baltimore Metropolitan Areas



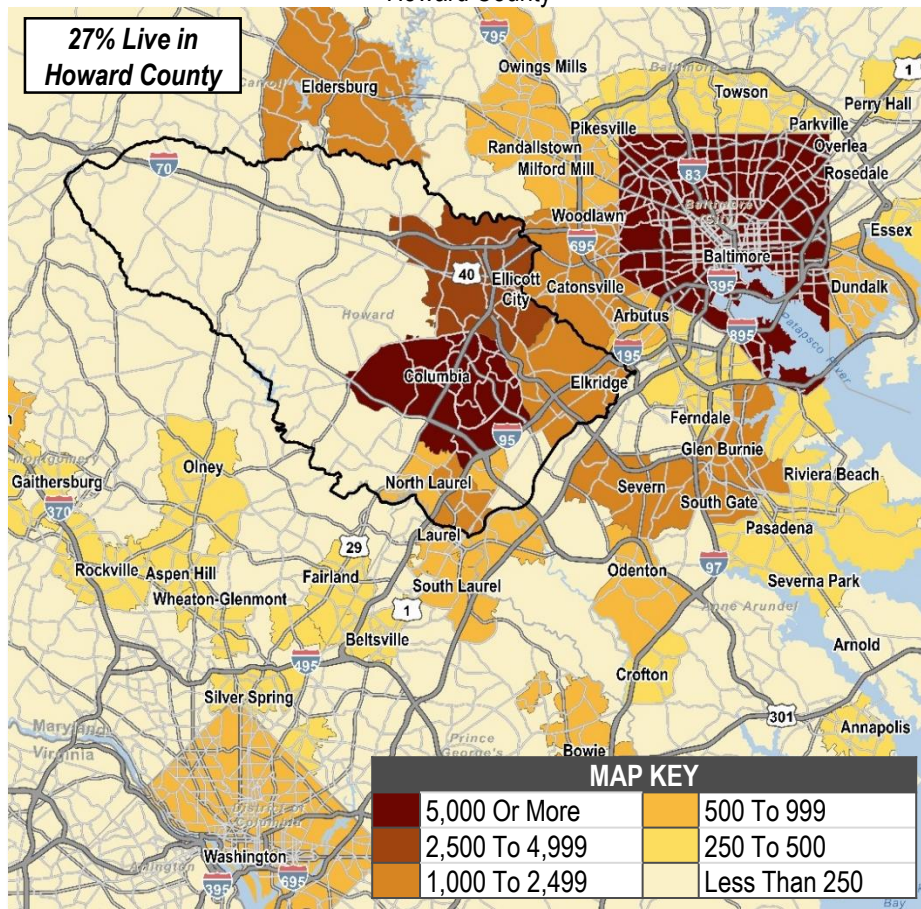
Source: Census OnTheMap; RCLCO

COMMUTE PATTERNS

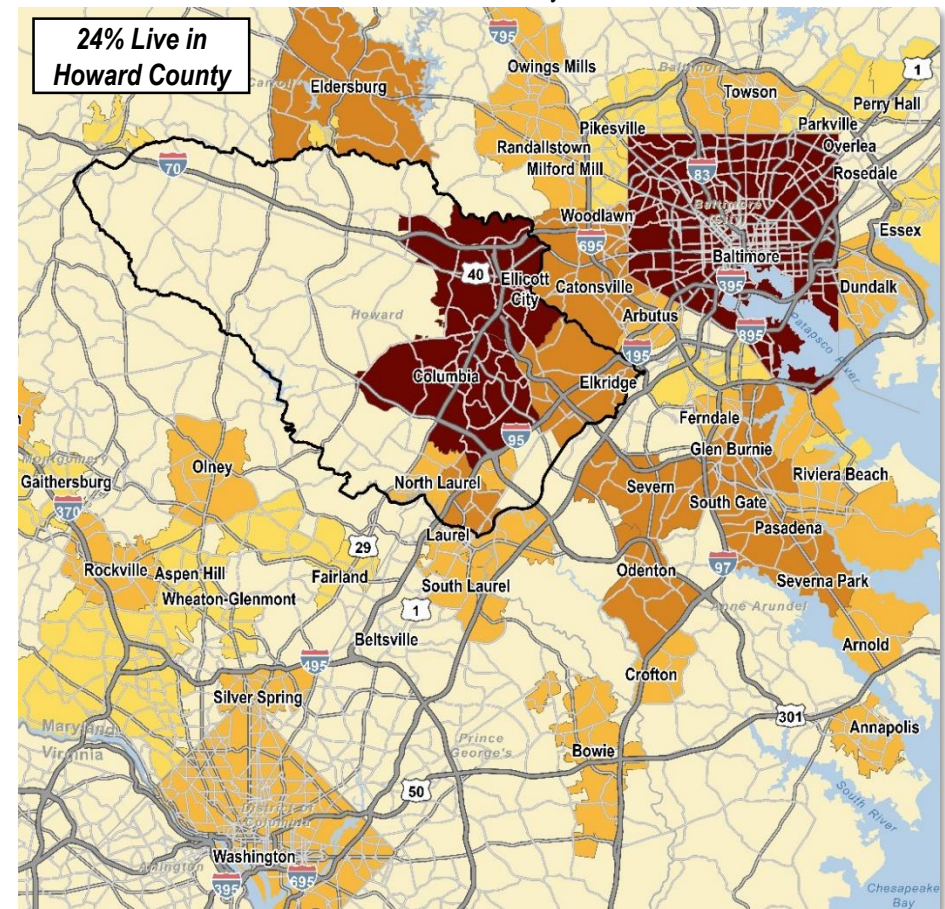
THERE IS LITTLE VARIANCE BY INCOME IN TERMS OF THE PEOPLE WHO BOTH LIVE AND WORK IN HOWARD COUNTY

- This pattern suggests that the difference between Howard County and other jurisdictions is attributable to both housing quantity and housing quality, rather than just price.

**Residences of Low-Wage Employees, 2017;
Howard County**



**Residences of Moderate- & High-Wage Employees, 2017;
Howard County**



Note: "Low-Wage" defined as those employees earning less than \$3,333 monthly (about 50% AMI) "Moderate and High-Wage" defined as those employees earning more than \$3,333 monthly

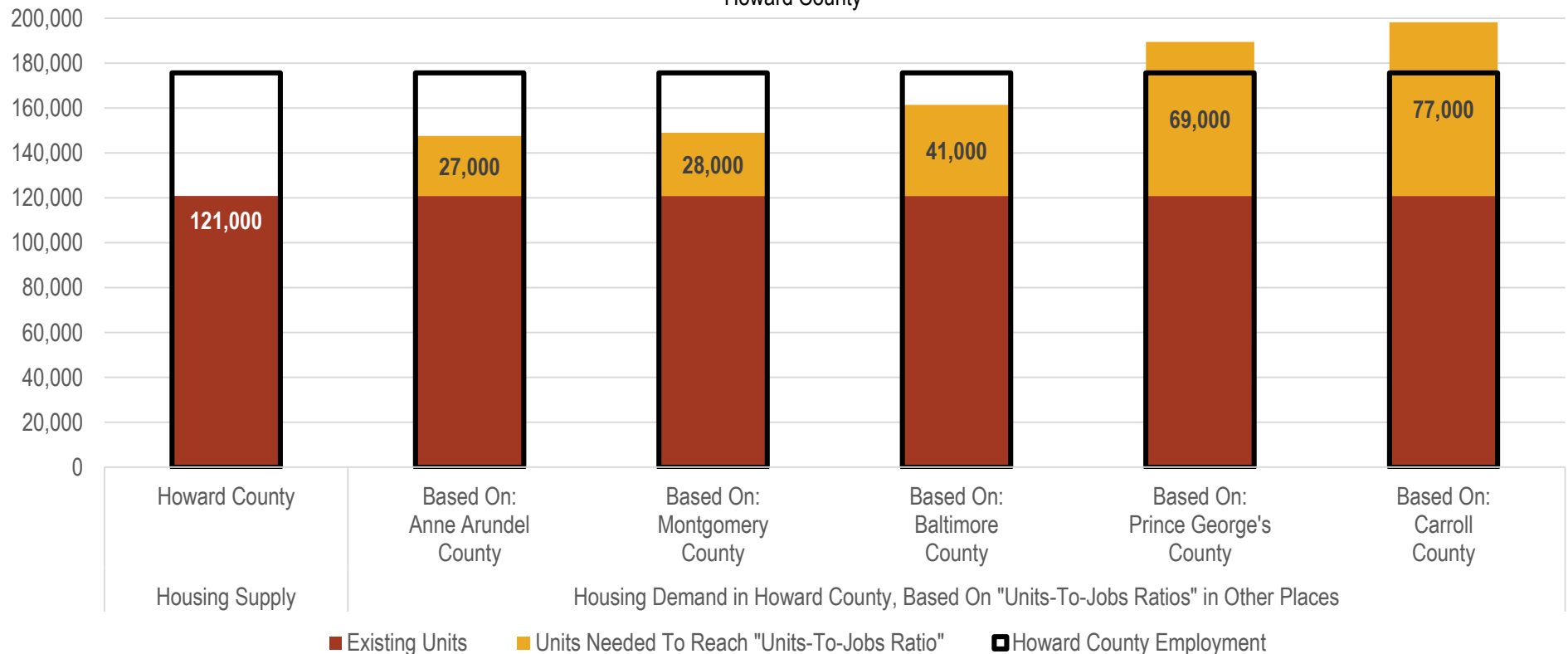
Source: Census OnTheMap; RCLCO

LACK OF HOUSING SUPPLY

HOWARD COUNTY HAS MANY MORE JOBS THAN HOUSING UNITS, LIKELY CONTRIBUTING TO ITS HOUSING CONSTRAINTS

- Based on job totals from the Bureau of Labor Statistics, Howard County has 0.69 housing units for every job, compared to 0.84 for Anne Arundel County, 0.85 for Montgomery County, 0.92 for Baltimore County, 1.08 for Prince George's County, and 1.13 for Carroll County. While it is not unusual for households to live in different locations than the ones in which they work, the extent of this mismatch suggests that one reason for the housing constraints in Howard County is that it lacks the inventory to support its employees.
- Based on the housing units-to-jobs ratios of other jurisdictions, RCLCO estimates that Howard County requires more than 20,000 additional housing units, in order to reach a more balanced relationship between its employment base and housing inventory.

Housing Units Needed to Reach Units-To-Jobs Ratios of Other Jurisdictions, 2019;
Howard County



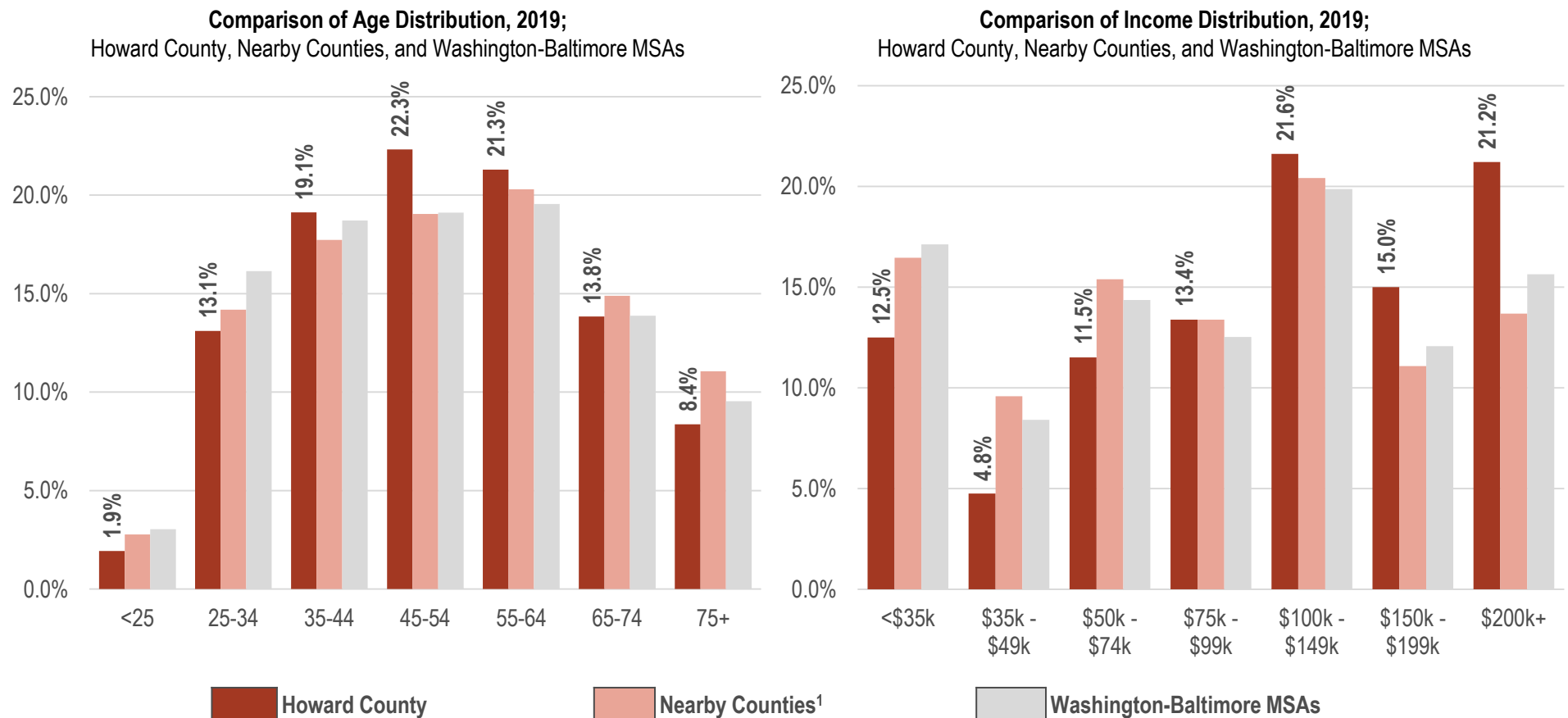
Source: Howard County Department of Planning and Zoning; Bureau of Labor Statistics; Esri; RCLCO

DEMOGRAPHIC OVERVIEW

DEMOGRAPHIC COMPARISON

THE HOUSEHOLD BASE IN HOWARD COUNTY TENDS TO BE HIGHER-INCOME, WITH MORE MIDDLE-AGED HOUSEHOLDS

- Howard County has a much higher share of middle-aged and high-income households than other nearby jurisdictions, as well as the broader Washington, D.C., and Baltimore metropolitan areas. Approximately 57.8% of households in Howard County have incomes above \$100,000, compared to just 45.2% in nearby counties.



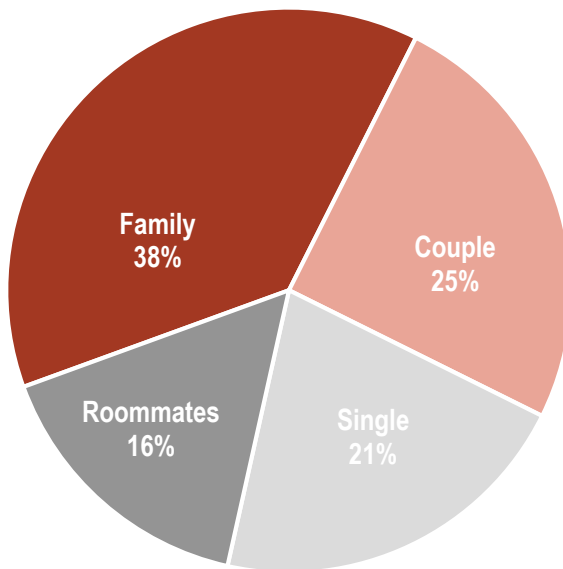
¹ Nearby Counties include Anne Arundel, Baltimore, Carroll, Montgomery, and Prince George's Counties
Source: Esri

HOUSEHOLD TYPE COMPARISON

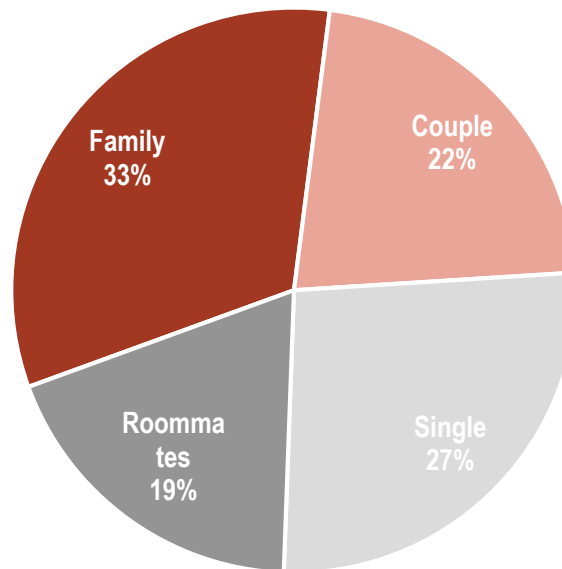
FAMILIES AND COUPLES REPRESENT AN OUTSIZED SHARE OF THE HOUSEHOLD BASE IN HOWARD COUNTY, RELATIVE TO THE HOUSEHOLD BASE OF THE REGION AS A WHOLE

► This difference is true even relative to the household bases of other surrounding counties, such as Anne Arundel County and Montgomery County.

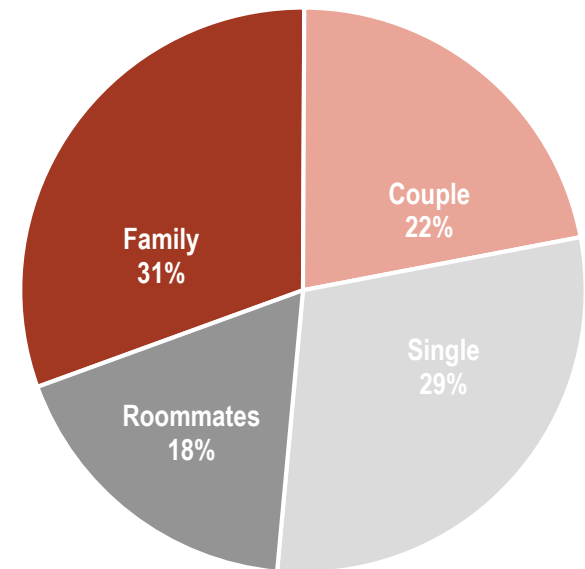
Household Type, 2016-2018;
Howard County, MD



Household Type, 2016-2018;
Nearby Counties¹



Household Type, 2016-2018;
Washington-Baltimore MSAs



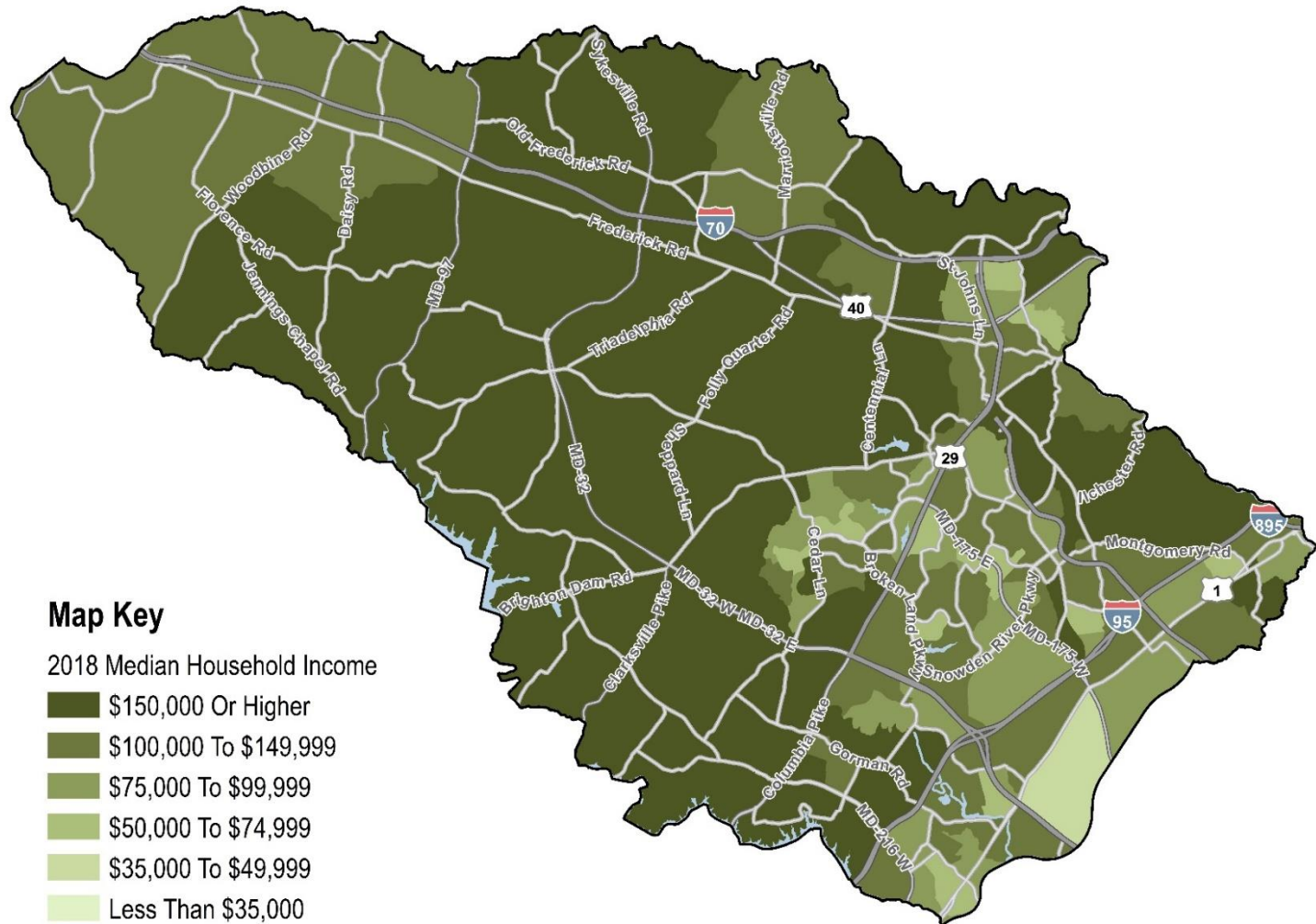
¹ Nearby Counties include Anne Arundel, Baltimore, Carroll, Montgomery, and Prince George's Counties
Source: Esri

THE FOLLOWING MAPS HIGHLIGHT THE ECONOMIC AND DEMOGRAPHIC DIFFERENCES THAT EXIST IN CERTAIN PARTS OF HOWARD COUNTY, AS WELL AS THE EXTENT TO WHICH SOME OF THOSE DIFFERENCES RELATE TO HOUSING

- ▶ RCLCO utilized geographic information system (“GIS”) data to observe various economic and demographic variables at the census tract-level. These maps point to substantial economic and demographic differences between Eastern Howard County and Western Howard County, and many of these differences are attributable the housing inventories in each location.
- ▶ In general, development patterns in Western Howard County favor large-lot and/or single-family development. This type of development tends to produce more expensive forms of housing, with fewer options for renters. Meanwhile, neighborhoods in Eastern Howard County tend to have more diverse housing inventories, including a mix of single-family detached homes, townhomes, condominiums, and rental apartments that serve households of varying population segments.
- ▶ Given these differences, income levels tend to be much higher in Western Howard County than they are in Eastern Howard County. At the same time, neighborhoods in Eastern Howard County tend to be more racially and economically diverse than those in Western Howard County. Nonwhite households, lower-income households, and households receiving assistance are much more likely to live in Eastern Howard County, including Columbia and the Route 1 Corridor in particular, in part because most attainable housing options are concentrated in these neighborhoods. The combination of these trends highlight the extent to which housing influences racial and economic diversity.

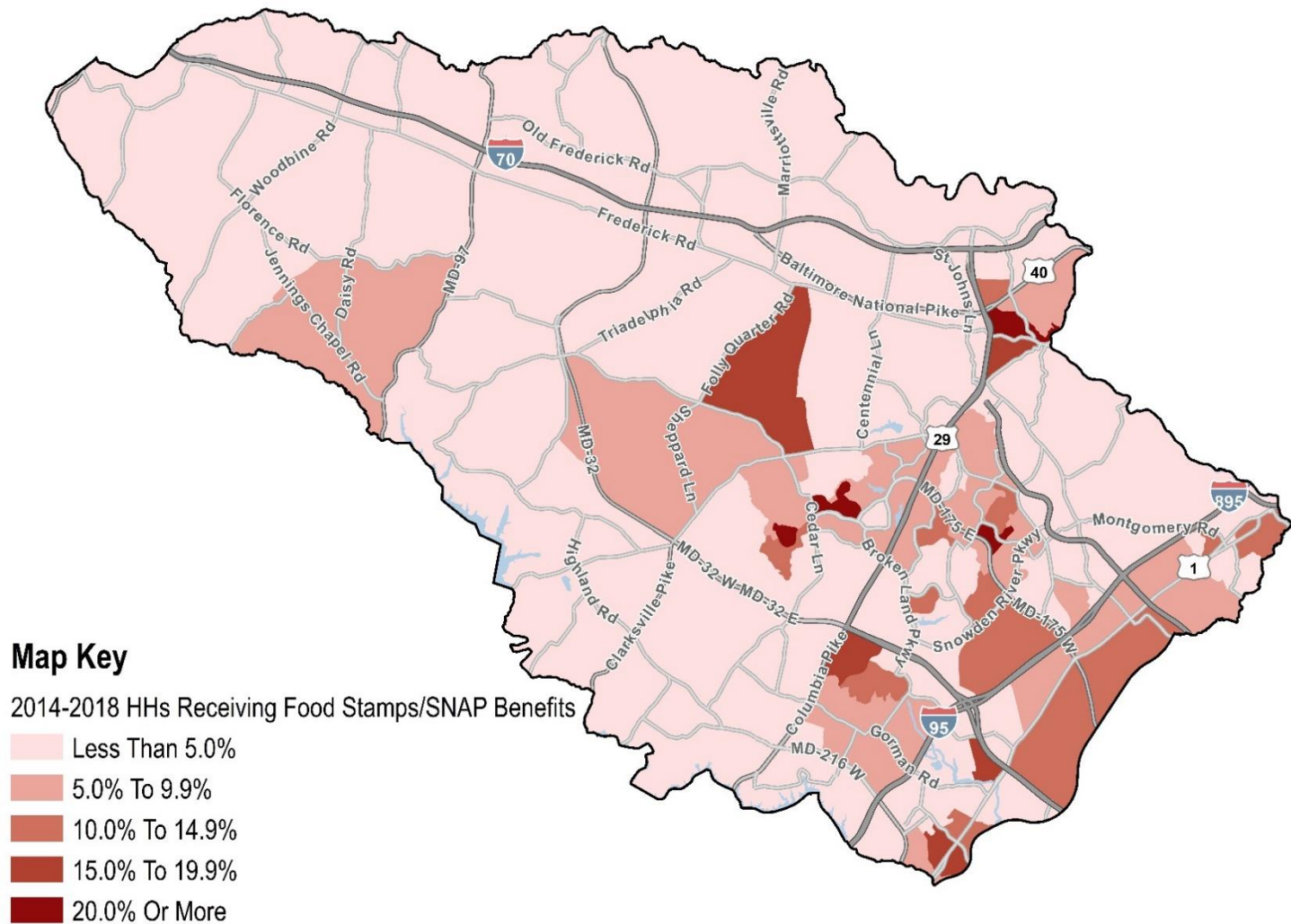
Source: RCLCO

HOUSEHOLD INCOMES



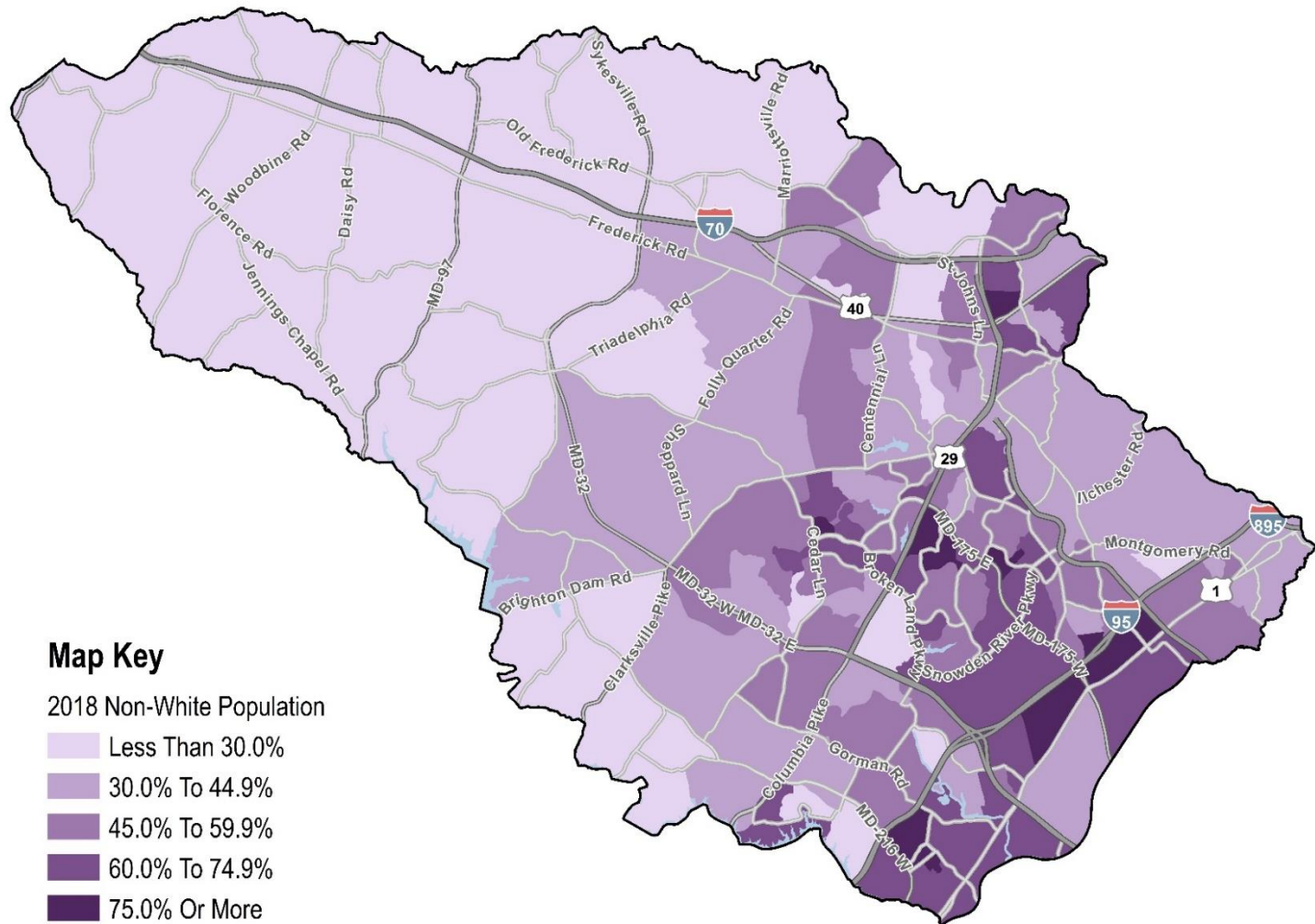
Source: Esri; RCLCO

HOUSEHOLD ASSISTANCE



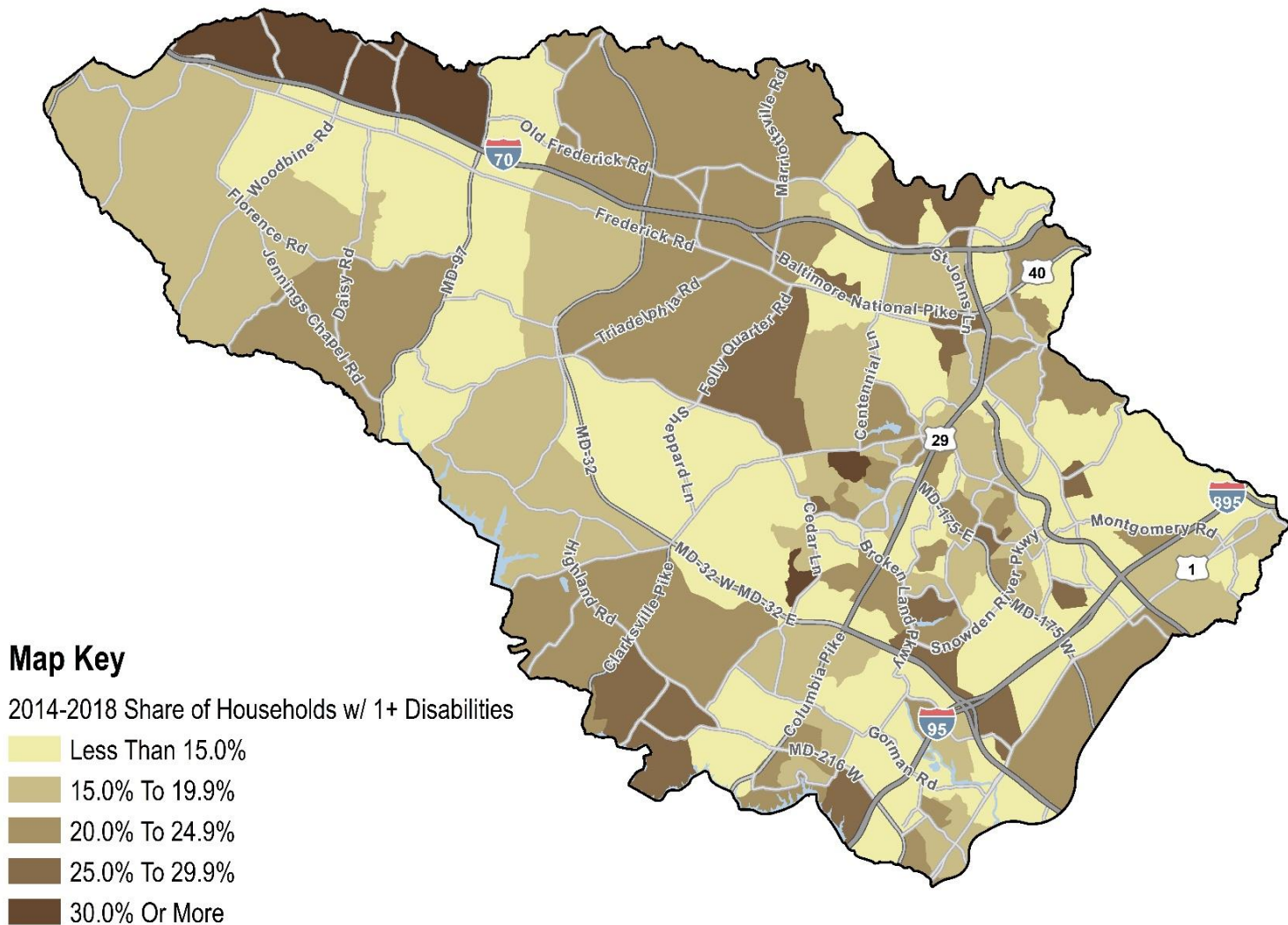
Source: Esri; RCLCO

RACIAL DIVERSITY



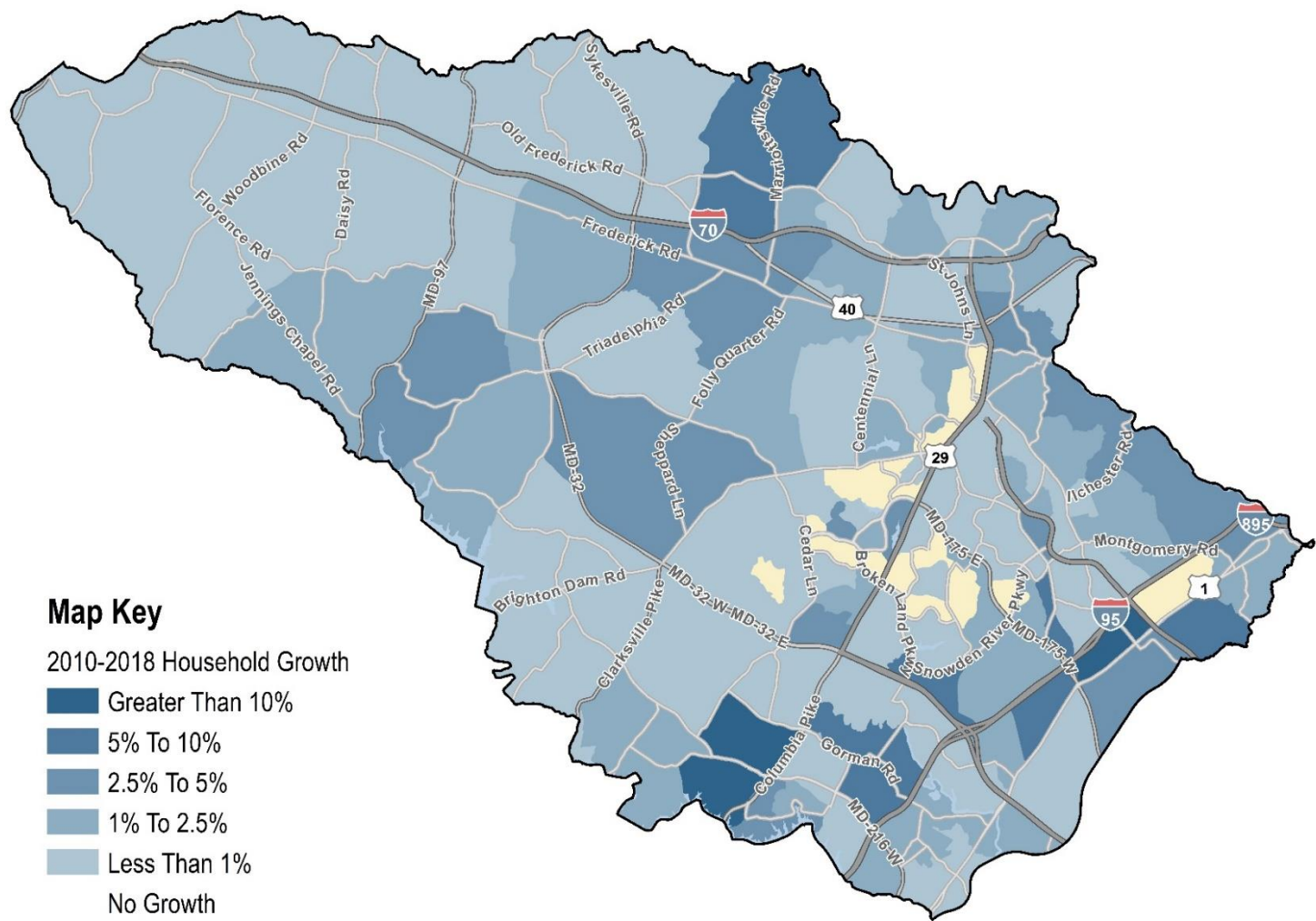
Source: Esri; RCLCO

PERSONS WITH DISABILITIES



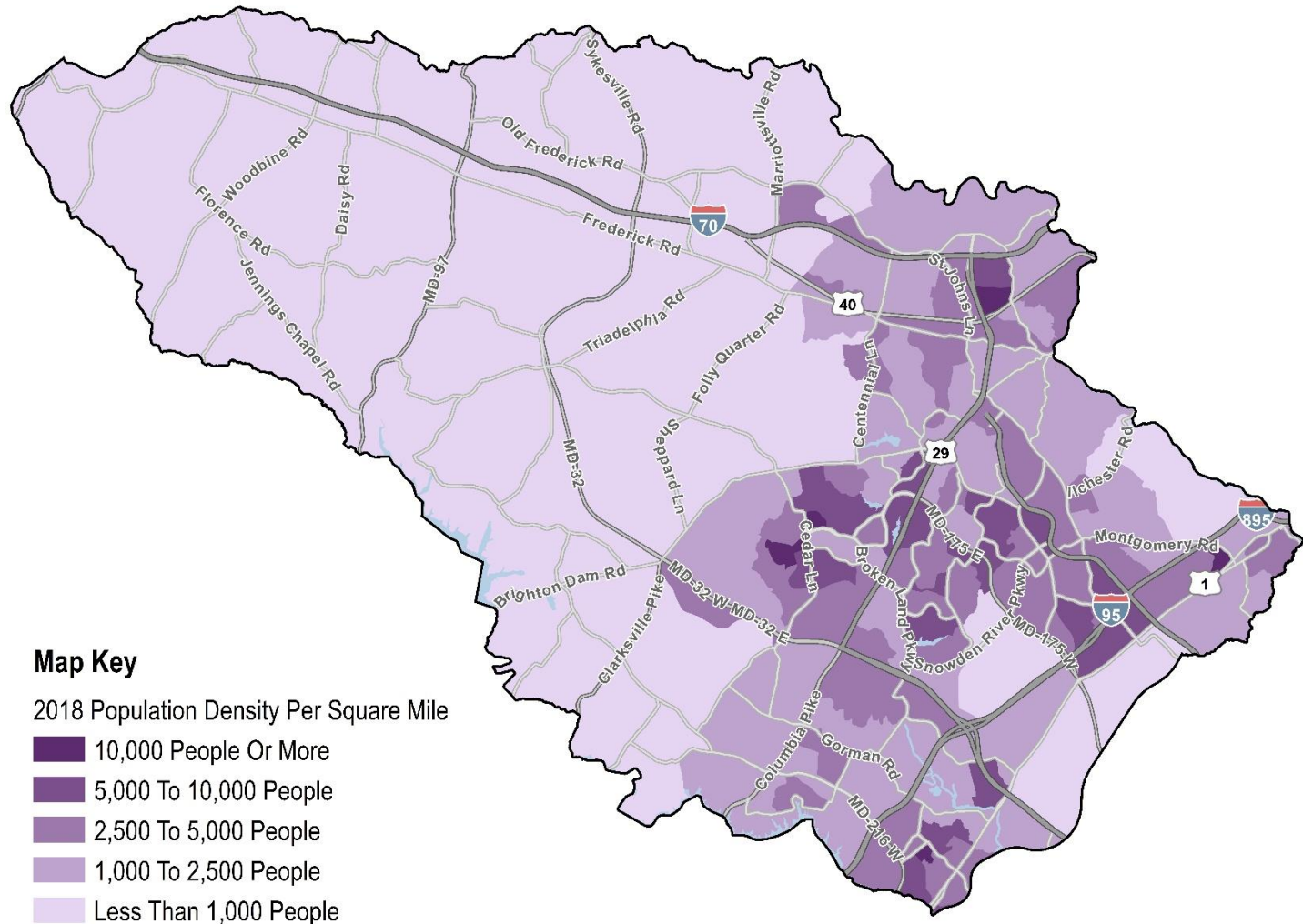
Source: Esri; RCLCO

HOUSEHOLD GROWTH



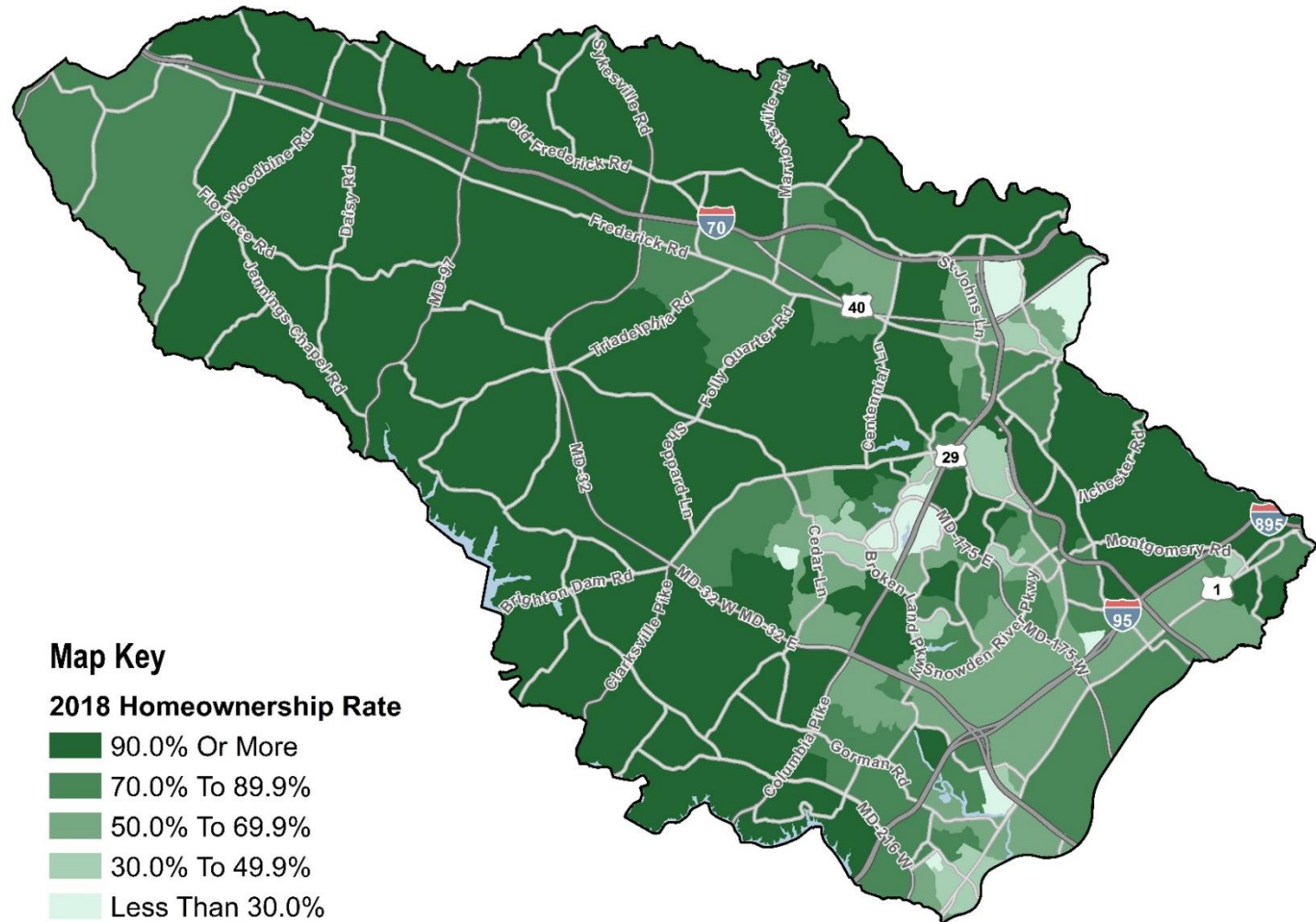
Source: Esri; RCLCO

POPULATION DENSITIES



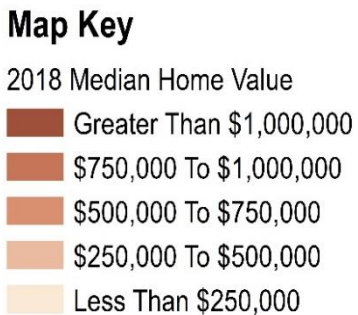
Source: Esri; RCLCO

HOMEOWNERSHIP RATES

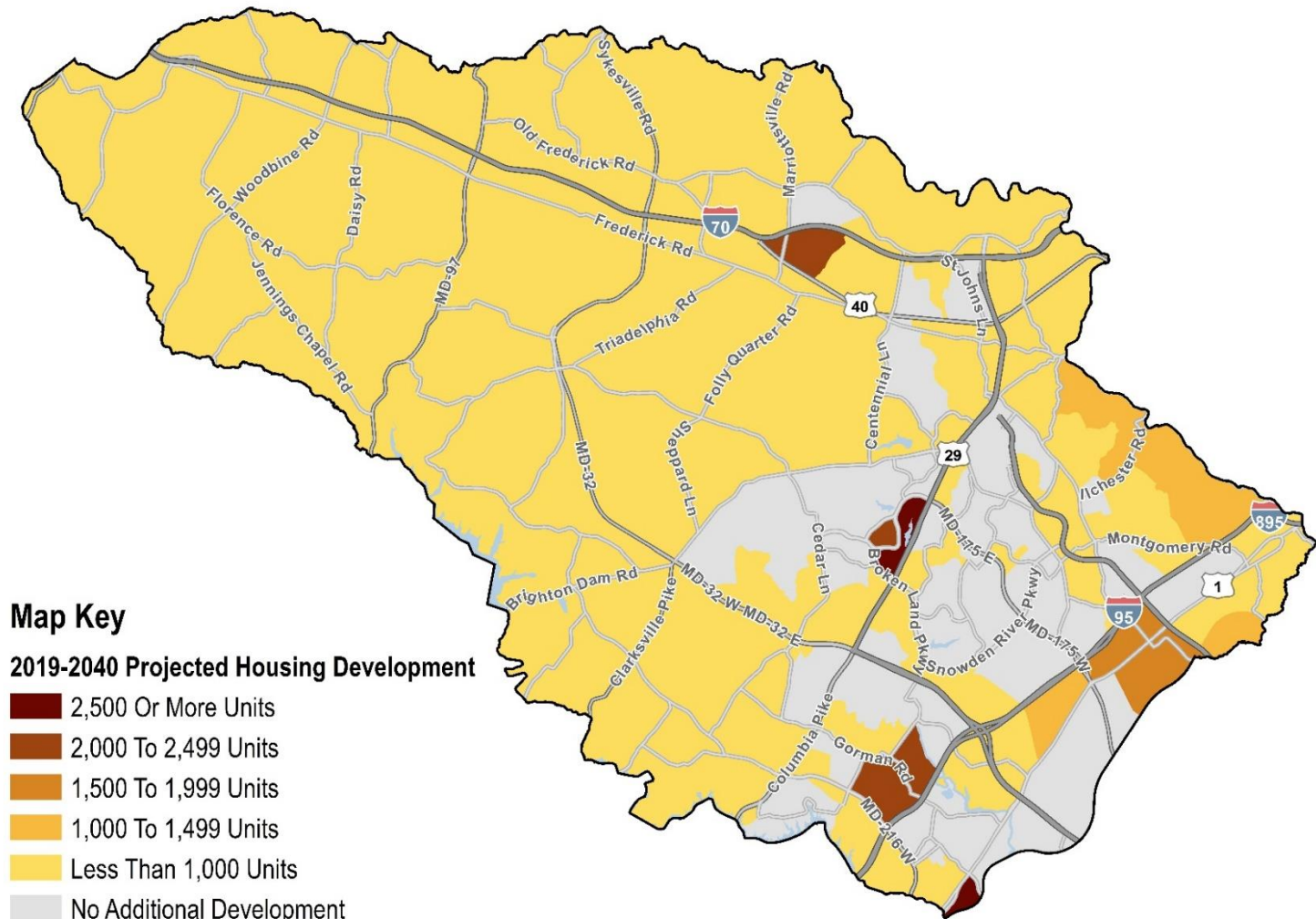


Source: Esri; RCLCO

HOME VALUES



FUTURE HOUSING DEVELOPMENT



*Note: Above map based on the most recent development projections from the Department of Planning and Zoning, as of April 2020.
Source: Esri; RCLCO*

HOUSING DEMAND

TO EXAMINE HOUSING DEMAND AND AFFORDABILITY IN HOWARD COUNTY, RCLCO ANALYZED THE NUMBER OF HOUSEHOLDS IN VARIOUS AMI BANDS

- ▶ Area Median Income (“AMI”) reflects the midpoint of a region’s income distribution, based on household size. AMI bands are used to set income thresholds for housing policies and programs on the Federal, State, and Local levels. The State of Maryland currently uses AMI bands from the Baltimore PMSA¹ for Howard County.
 - » For more information on the AMI bands for the Baltimore PMSA, please see below. Given that the Baltimore PMSA covers a wider geography than just Howard County, these bands can be helpful to identify differences between Howard County and other surrounding areas.
 - » Howard County also sets its own AMI bands for local programs like its Moderate Income Housing Unit (“MIHU”) program. These bands can be helpful to identify differences within Howard County. In general, the AMI bands for Howard County are higher than those for the Baltimore PMSA, given the economic and demographic makeup of the County compared to the broader region.
- ▶ To understand housing demand in Howard County, RCLCO relied on AMI bands for the Baltimore PMSA, with the goal of identifying populations that might be over- or under-represented in the County today. Using data from the American Community Survey (“ACS”), RCLCO categorized the household base in Howard County into each of the below AMI bands, with the goal of understanding the number of households in each. RCLCO then utilized the same data to further segment these groups into a variety of different market segments, including singles, couples, families, roommates, and seniors.

**AMI Bands, 2019;
Baltimore PMSA**

	AMI	Under 30% AMI	30%-60% AMI	60%-80% AMI	80%-120% AMI	Over 120% AMI
1-Person Household	\$66K	Under \$21K	\$21K-\$42K	\$42K-\$53K	\$53K-\$79K	Over \$79K
2-Person Household	\$76K	Under \$24K	\$24K-\$49K	\$49K-\$60K	\$60K-\$91K	Over \$91K
3-Person Household	\$85K	Under \$27K	\$27K-\$55K	\$55K-\$68K	\$68K-\$102K	Over \$102K
4-Person Household	\$94K	Under \$30K	\$30K-\$61K	\$61K-\$76K	\$76K-\$113K	Over \$113K
5-Person Household	\$102K	Under \$33K	\$33K-\$66K	\$66K-\$82K	\$82K-\$122K	Over \$122K

¹ Includes Baltimore City and Anne Arundel, Baltimore, Carroll, Harford, Howard, and Queen Anne’s Counties
Source: State of Maryland Department of Housing and Community Development, 2019 Values

LOCAL HOUSEHOLD BASE

RELATIVE TO OTHER SURROUNDING COUNTIES, HOWARD COUNTY IS HOME TO A GREATER SHARE OF HOUSEHOLDS THAT MAKE MORE THAN 120% OF AMI, AS WELL AS A LOWER SHARE OF HOUSEHOLDS THAT MAKE LESS THAN 60% OF AMI

Household Base by Size and AMI Band, 2019;
Howard County and Other Surrounding Counties

HOWARD COUNTY - SUMMARY OF HOUSEHOLD TYPE AND AMI LEVEL						
	VERY LOW INCOME	LOW INCOME	MODERATE	WORKFORCE	MARKET RATE	TOTAL
	<i>Under 30% AMI</i>	<i>30% - 60% AMI</i>	<i>60% - 80% AMI</i>	<i>80% - 120% AMI</i>	<i>Over 120% AMI</i>	
1-person household	3,487	4,398	2,455	5,502	9,456	25,299
2-person household	2,404	2,865	1,794	6,875	25,024	38,962
3-person household	1,222	1,624	746	3,938	14,606	22,137
4-person household	1,172	1,001	1,212	3,306	13,431	20,122
5+-person household	659	1,031	808	1,920	7,527	11,945
TOTAL QUALIFYING HHs	8,944	10,920	7,015	21,541	70,045	118,465
	8%	9%	6%	18%	59%	
SURROUNDING COUNTIES - SUMMARY OF HOUSEHOLD TYPE AND AMI LEVEL						
	VERY LOW INCOME	LOW INCOME	MODERATE	WORKFORCE	MARKET RATE	TOTAL
	<i>Under 30% AMI</i>	<i>30% - 60% AMI</i>	<i>60% - 80% AMI</i>	<i>80% - 120% AMI</i>	<i>Over 120% AMI</i>	
1-person household	72,088	77,362	34,680	69,837	87,746	341,714
2-person household	29,271	57,857	31,649	76,902	208,760	404,439
3-person household	14,462	29,749	16,365	43,691	113,192	217,458
4-person household	11,772	23,923	14,224	34,254	95,106	179,280
5+-person household	10,032	22,642	10,485	28,411	60,332	131,902
TOTAL QUALIFYING HHs	137,625	211,533	107,403	253,095	565,137	1,274,793
	11%	17%	8%	20%	44%	

Note: Above tables use AMI bands for the Baltimore PMSA, in order to highlight differences in Howard County compared to other jurisdictions. "Surrounding Counties" include Anne Arundel, Baltimore, Carroll, Montgomery, and Prince George's Counties. The number of households is based on 2018 ACS 1-Year Estimate totals and 2017 ACS 5-Year Estimate distributions, adjusted up to reflect likely 2019 totals based on the recent (2015-2018) household growth rate for each area.

Source: 2017 American Community Survey 5-Year Estimates 2013-2017; ACS PUMS Data 2016-2018; RCLCO

LOCAL HOUSEHOLD BASE

RELATIVE TO OTHER SURROUNDING COUNTIES, HOWARD COUNTY IS HOME TO A GREATER SHARE OF HOUSEHOLDS THAT MAKE MORE THAN 120% OF AMI, AS WELL AS A LOWER SHARE OF HOUSEHOLDS THAT MAKE LESS THAN 60% OF AMI

Household Base by Size and AMI Band, 2019;
Howard County and Other Surrounding Counties

Howard County						
OWNERS						
	1 Person	2 Person	3-4 Person	5+ Person	Total	% Own
Under 30% AMI	1,259	973	614	258	3,104	
30% - 60% AMI	2,126	1,817	1,249	580	5,772	
60% - 80% AMI	1,277	1,202	782	491	3,753	
80% - 120% AMI	3,459	4,096	5,071	1,521	14,146	
Over 120% AMI	6,947	21,029	25,756	6,878	60,610	
TOTAL	15,068	29,116	33,472	9,728	87,384	74%
% Own	60%	75%	79%	81%	74%	

RENTERS						
	1 Person	2 Person	3-4 Person	5+ Person	Total	% Rent
Under 30% AMI	2,228	1,431	1,780	401	5,840	
30% - 60% AMI	2,272	1,048	1,377	451	5,148	
60% - 80% AMI	1,178	592	1,175	317	3,262	
80% - 120% AMI	2,044	2,779	2,173	399	7,395	
Over 120% AMI	2,510	3,996	2,281	649	9,436	
TOTAL	10,231	9,846	8,787	2,217	31,081	26%
% Rent	40%	25%	21%	19%	26%	

Surrounding Counties						
OWNERS						
	1 Person	2 Person	3-4 Person	5+ Person	Total	% Own
Under 30% AMI	28,443	13,677	8,164	3,001	53,285	
30% - 60% AMI	40,147	33,019	21,629	10,474	105,269	
60% - 80% AMI	18,245	19,791	16,414	6,149	60,598	
80% - 120% AMI	41,404	52,507	50,999	19,866	164,776	
Over 120% AMI	63,157	173,649	181,510	53,518	471,833	
TOTAL	191,395	292,642	278,717	93,007	855,762	67%
% Own	56%	72%	70%	71%	67%	

RENTERS						
	1 Person	2 Person	3-4 Person	5+ Person	Total	% Rent
Under 30% AMI	43,646	15,594	18,069	7,031	84,340	
30% - 60% AMI	37,214	24,838	32,043	12,168	106,264	
60% - 80% AMI	16,435	11,858	14,175	4,336	46,805	
80% - 120% AMI	28,434	24,395	26,946	8,545	88,319	
Over 120% AMI	24,589	35,112	26,788	6,815	93,304	
TOTAL	150,319	111,797	118,021	38,895	419,032	33%
% Rent	44%	28%	30%	29%	33%	

Note: Above tables use AMI bands for the Baltimore PMSA, in order to highlight differences in Howard County compared to other jurisdictions. "Surrounding Counties" include Anne Arundel, Baltimore, Carroll, Montgomery, and Prince George's Counties. The number of households is based on 2018 ACS 1-Year Estimate totals and 2017 ACS 5-Year Estimate distributions, adjusted up to reflect likely 2019 totals based on the recent (2015-2018) household growth rate for each area.

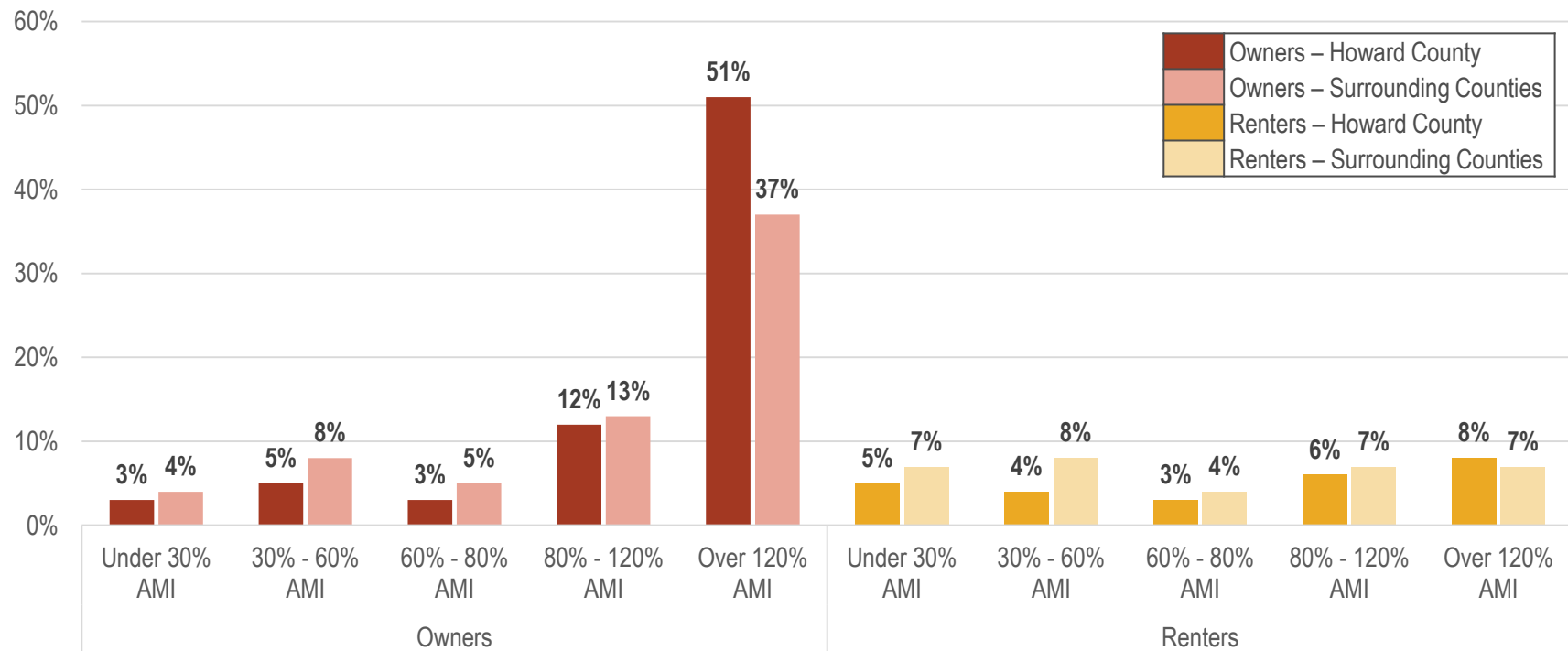
Source: 2017 American Community Survey 5-Year Estimates 2013-2017; ACS PUMS Data 2016-2018; RCLCO

HOUSEHOLDS BY AMI & TENURE

HOWARD COUNTY HAS A MORE AFFLUENT AND OWNER-ORIENTED HOUSEHOLD BASE THAN SURROUNDING COUNTIES

- Relative to surrounding counties, Howard County is home to an outsized share of affluent homeowners. Households that own their own homes and make more than 120% of AMI account for a majority (51%) of all households in Howard County, compared to just 37% in surrounding counties.
- On the other hand, Howard County is home to a comparatively lower share of homeowners who make less than this amount, as well as most types of renters. These differences are at least partially attributable to the types and price points of housing that exist in the County today.

Distribution of Households by Tenure and AMI Band, 2019;
Howard County, MD and Surrounding Counties



Note: "Surrounding Counties" include Anne Arundel, Baltimore, Carroll, Montgomery, and Prince George's Counties. The number of households is based on 2018 ACS 1-Year Estimate totals and 2017 ACS 5-Year Estimate distributions, adjusted up to reflect likely 2019 totals based on the recent (2015-2018) household growth rate for each area.

Source: 2017 American Community Survey 5-Year Estimates 2013-2017; ACS PUMS Data 2016-2018; RCLCO

HOUSEHOLD BASE IN HOWARD COUNTY

Segmentation of Household Base, 2019;
Howard County, MD and Surrounding Counties

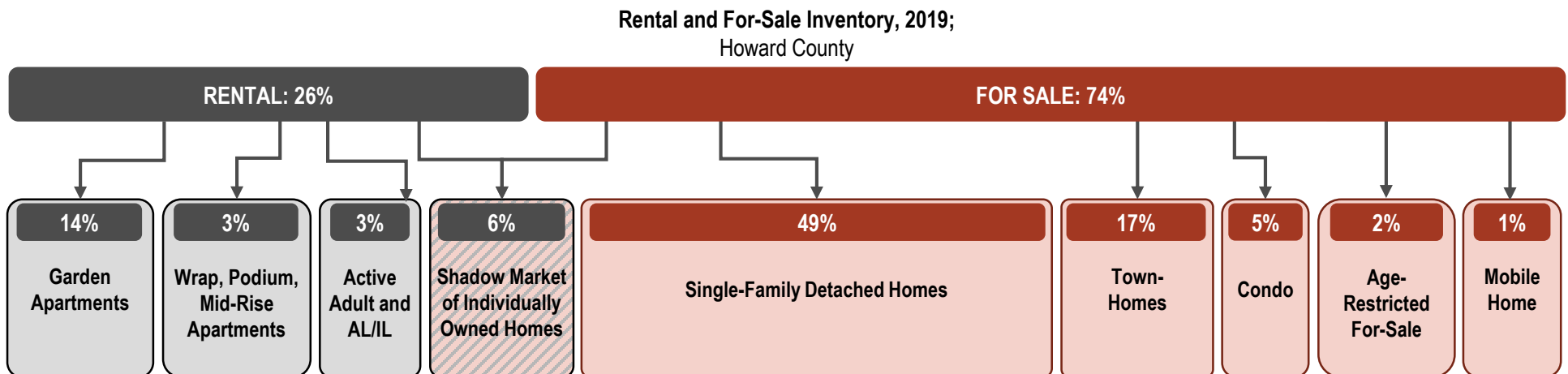
MARKET SEGMENT	SEGMENT CHARACTERISTICS	HOWARD COUNTY		SURROUNDING COUNTIES		"FAIR SHARE" CAPTURE
		NO. OF HHs	% OF HHs	NO. OF HHs	% OF HHs	
Low-Income Singles	1-Person HHs Aged Under 65 Under 60% AMI	4,052	3%	76,522	6%	▼
Moderate-Income Singles	1-Person HHs Aged Under 65 Between 60%-80% AMI	1,618	1%	21,787	2%	▼
Workforce Singles	1-Person HHs Aged Under 65 Between 80%-120% AMI	3,285	3%	48,874	4%	▼
Market and Above Singles	1-Person HHs Aged Under 65 Over 120% AMI	7,340	6%	64,738	5%	▲
Low-Income Couples	Couples Aged Under 65 Under 60% AMI	922	1%	19,314	2%	▼
Moderate-Income Couples	Couples Aged Under 65 Between 60%-80% AMI	549	0%	9,065	1%	▼
Workforce Couples	Couples Aged Under 65 Between 80%-120% AMI	2,942	2%	28,747	2%	■
Market and Above Couples	Couples Aged Under 65 Over 120% AMI	13,910	12%	114,336	9%	▲
Low-Income Families	HHs with Children Under 60% AMI	6,637	6%	105,016	8%	▼
Moderate-Income Families	HHs with Children Between 60%-80% AMI	2,600	2%	33,695	3%	▼
Workforce Families	HHs with Children Between 80%-120% AMI	7,491	6%	81,214	6%	■
Market and Above Families	HHs with Children Over 120% AMI	26,554	22%	182,472	14%	▲
Roommates	Roommate HHs	14,700	12%	176,571	14%	■
Low-Income Seniors	HHs Aged 65 and Older Under 60% AMI	6,806	6%	116,981	9%	▼
Moderate-Income Seniors	HHs Aged 65 and Older Between 60%-80% AMI	1,578	1%	29,148	2%	▼
Workforce Seniors	HHs Aged 65 and Older Between 80%-120% AMI	5,979	5%	59,120	5%	■
Market and Above Seniors	HHs Aged 65 and Older Over 120% AMI	11,502	10%	107,195	8%	▲
TOTAL		118,465	100%	1,274,793	100%	

Note: The number of households is based on 2018 ACS 1-Year Estimate totals and 2017 ACS 5-Year Estimate distributions, adjusted up to reflect likely 2019 totals based on the recent (2015-2018) household growth rate. "Surrounding Counties" include Anne Arundel, Baltimore, Carroll, Montgomery, and Prince George's Counties
Source: 2017 American Community Survey 5-Year Estimates 2013-2017; ACS PUMS Data 2016-2018; RCLCO

FOR-SALE HOUSING SUPPLY

HOWARD COUNTY HAS A DIVERSE HOUSING INVENTORY, WHICH INCLUDES A VARIETY OF TYPES, SIZES, AND PRICE POINTS

- In order to analyze the housing inventory in Howard County, RCLCO relied on detailed parcel-level data from the Department of Planning and Zoning (“DPZ”), which tracked the number of single-family detached homes, townhomes, multifamily units, and mobile homes on each property. In addition to the number and type of units, this data distinguished between rental apartments and for-sale condominiums in the case of multifamily housing, and it also included information on age restrictions when applicable.
- Using this data, RCLCO performed a series of analyses to estimate the number of each type of home that is affordable to each AMI level.
 - » First, RCLCO broke down the for-sale housing inventory into the following categories: Single-family detached homes, townhomes, condominiums, and mobile homes.
 - » Next, RCLCO performed a GIS analysis in order to apply DPZ-provided assessors data, such as size and year built, to each of these homes. This analysis enabled RCLCO to determine the number of “older” single-family detached homes, townhomes, condominiums, and mobile homes, as well as the number of “newer” ones. For the purpose of this analysis, RCLCO defined any home that was built before 2000 as “older” and any home that was built after 2000 as “newer.”
 - » After determining the number of “older” and “newer” homes for each type of property, RCLCO then estimated the price distribution for each housing type and age group, based on historical sales data from the Maryland Department of Assessments and Taxation (“SDAT”).
 - » For each housing type and age group, RCLCO then determined the distribution of affordability by AMI band, using American Community Survey (“ACS”) data to estimate the share of each type of home occupied by each size of household, and then assuming an affordable home price for any given household size is 3.5 times its income level.
 - » Finally, RCLCO aggregated all of this information in order to determine the number of each type of home that is affordable to each AMI band in Howard County.



Source: Howard County Department of Planning and Zoning; 2018 Howard County Rental Survey; Howard County Office on Aging and Independence; Maryland Department of Assessments and Taxation; CoStar; PUMS; RCLC

FOR-SALE HOUSING INVENTORY

DESPITE THE DIVERSITY OF THE OVERALL HOUSING INVENTORY, NEW HOMES TEND TO BE LARGER AND MORE EXPENSIVE

► While single-family detached homes under 3,000 square feet represent nearly half (48%) of the overall for-sale inventory, they account for just 17% of new product today.

For-Sale Inventory, 2019;
Howard County







	LARGE SFD	MODERATE SFD	SMALL SFD	TOWNHOME	CONDOMINIUM	OTHER
						
Description	Larger (3,000+ SF) detached homes	Moderate-sized (2,000 to 3,000 SF) detached homes	Smaller (<2,000 SF) detached homes	Attached homes, often multi-story	Condo units in multifamily buildings	Mobile homes
Average Size	4,046	2,440	1,528	1,707	1,158	1,400
Average Price	\$737,687	\$481,704	\$257,232	\$327,802	\$214,351	\$296,956
Average Year Built	1996	1985	1972	1992	1988	1975
% Built Before 1980	8%	30%	65%	22%	18%	19%
Total Number of Homes	15,718	24,024	22,260	27,329	6,190	1,288
Number of Homes Built 2010-2019	2,999	1,254	190	4,100	64	5
Dist. of Total For-Sale Inventory	16%	25%	23%	29%	6%	1%
Dist. of Homes Built 2010-2019	35%	15%	2%	48%	1%	0%

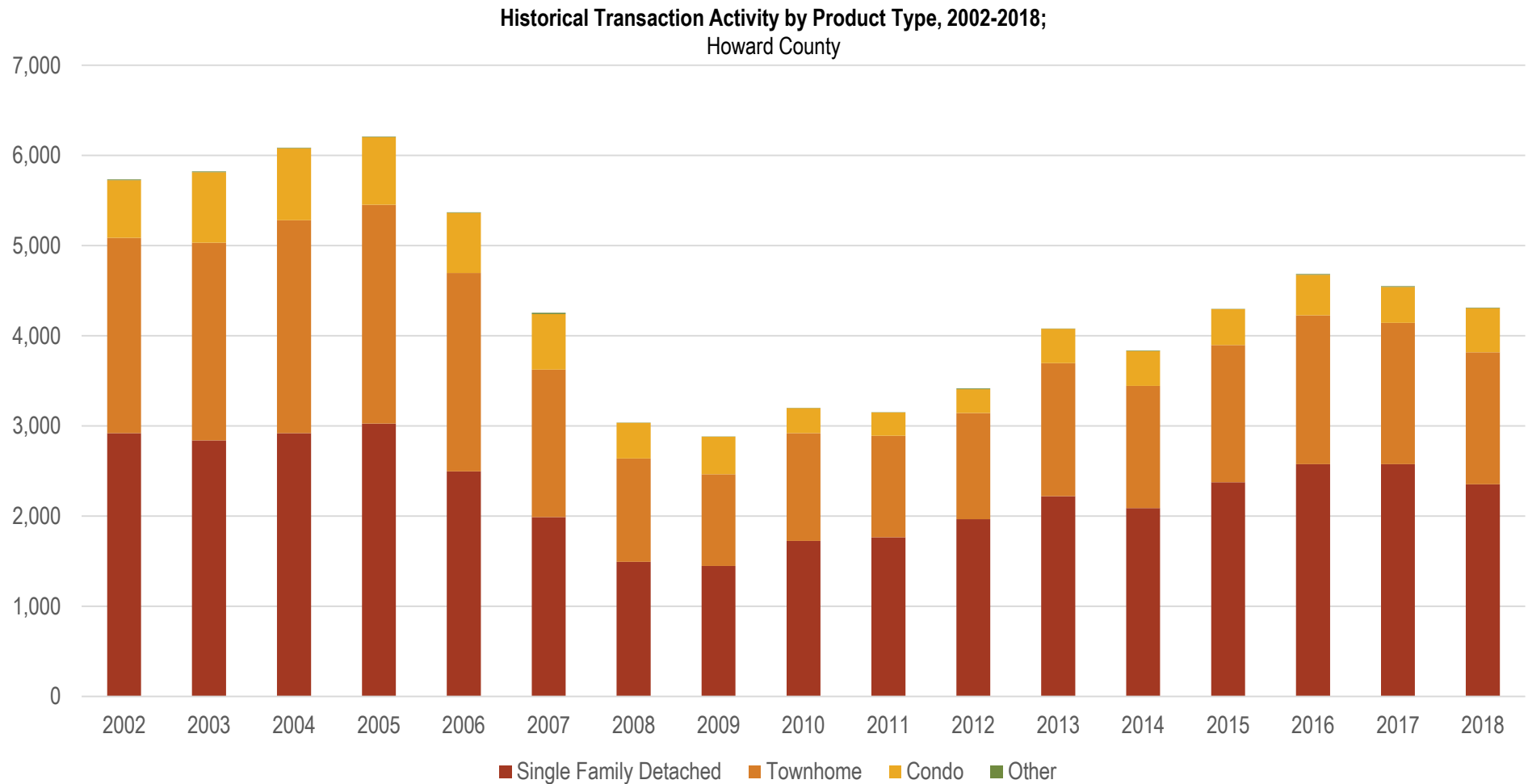
Image Source: Redfin

Source: Howard County Department of Planning and Zoning; Howard County GIS; Maryland Department of Planning; American Community Survey; RCLCO

RECENT TRANSACTION ACTIVITY

SINGLE-FAMILY HOMES CONTINUE TO DRIVE MOST TRANSACTION ACTIVITY IN HOWARD COUNTY

- Between 2010 and 2018, single-family detached homes accounted for an average of 2,183 home sales (55%) in Howard County each year, compared to 1,392 townhome sales (35%), and 367 condominium sales (9.3%).



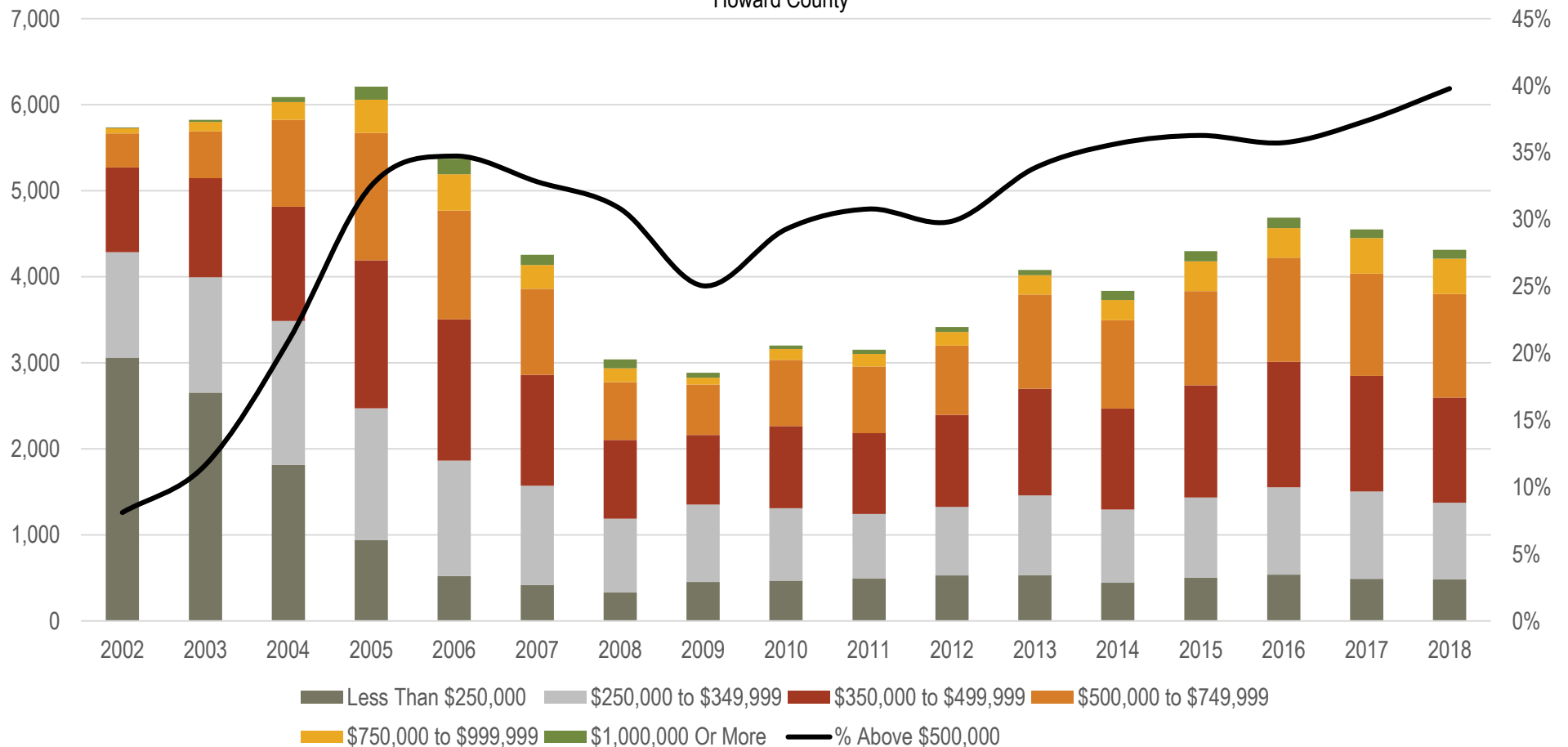
Source: Maryland Department of Planning; RCLCO

RECENT TRANSACTION ACTIVITY

THE PRICES OF HOMES IN HOWARD COUNTY HAVE STEADILY INCREASED OVER THE LAST DECADE

- The share of home sales taking place at price points above \$500,000 (affordable to a family of four that makes 150% of AMI) has increased from 29% in 2010 to 40% in 2018. At the same time, the share of home sales taking place at price points below \$350,000 (affordable to a family of four that makes 100% of AMI) has decreased from 41% in 2010 to 32% in 2018. The combination of these trends points to the rising affordability challenges in Howard County.

Historical Transaction Activity by Sales Price, 2002-2018;
Howard County



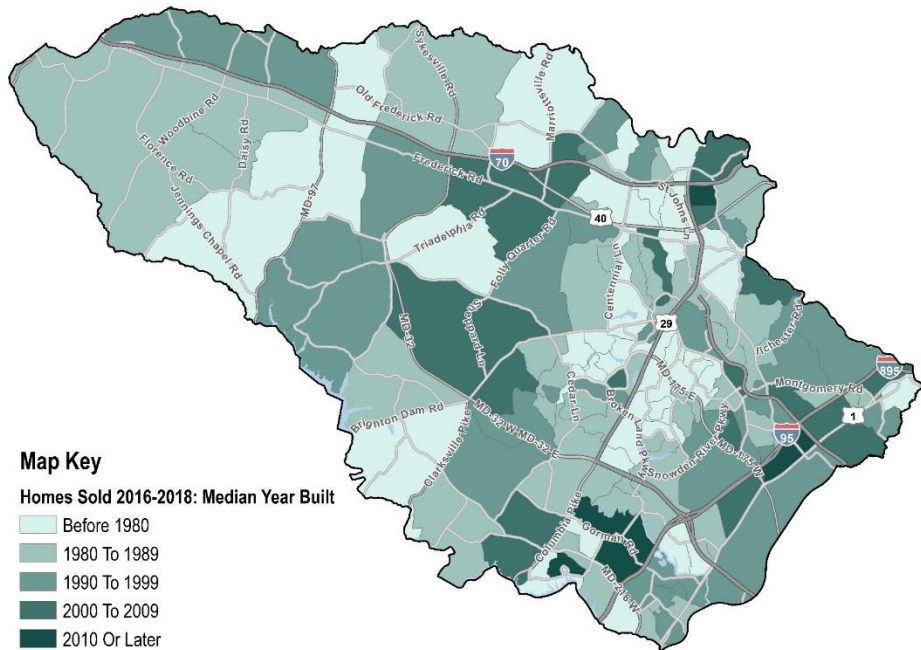
Source: Maryland Department of Planning; RCLCO

RECENT TRANSACTION ACTIVITY

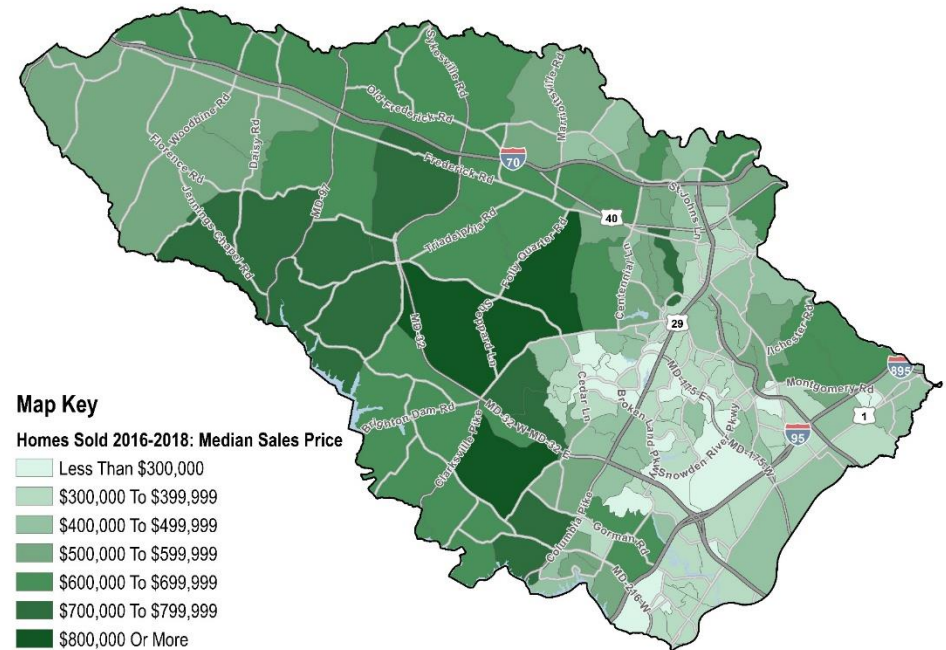
MOST ATTAINABLE HOUSING OPTIONS ARE CONCENTRATED IN LOCATIONS WITH OLDER HOUSING INVENTORIES

- This dynamic is a result of the fact that new construction activity tends to favor larger, more expensive homes, as well as the fact that many of the older homes are smaller and comparatively more affordable.

**Median Year Built of Homes Sold, 2016-2018;
Howard County**



**Median Sales Price of Homes Sold, 2016-2018;
Howard County**



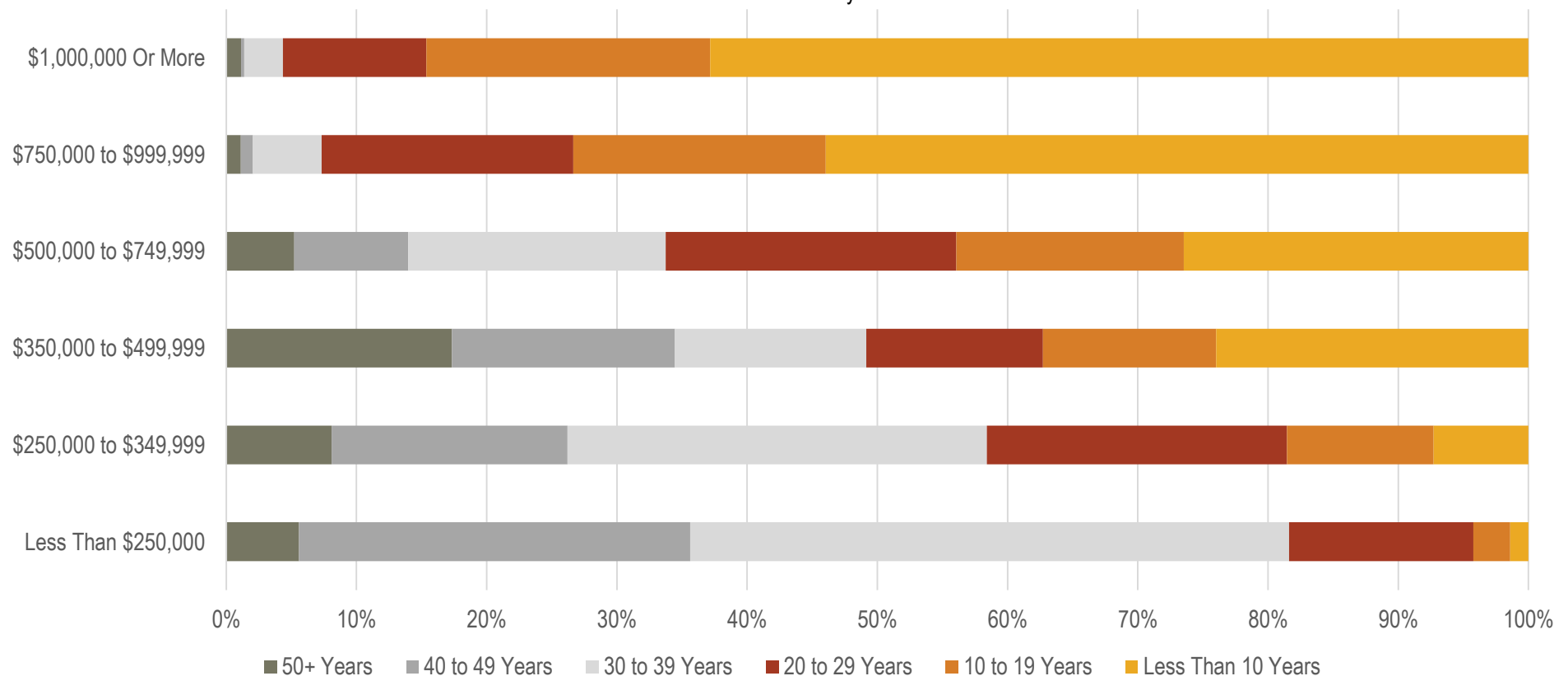
Source: Maryland Department of Planning; RCLCO

AGE OF THE HOUSING INVENTORY

MUCH OF THE ATTAINABLE HOUSING INVENTORY CONSISTS OF OLDER HOMES, MANY OF WHICH REQUIRE REPAIRS AND/OR MAY NOT MEET THE NEEDS OF THE HOUSEHOLDS LOOKING FOR THEM

- Between 2015 and 2018, two-thirds (66%) of homes that sold at price points below \$350,000 were built more than 30 years ago. This dynamic is even more true in the case of homes that sold at price points below \$250,000, 81% of which were built before this time. This dynamic can be problematic considering that older homes often require extensive repairs and/or upgrades, which can make them even less “affordable” than their price tag might suggest.

Age of Homes Sold by Price Band, 2015-2018;
Howard County



Source: Maryland Department of Planning; RCLCO

HOMES FOR SALE AT \$350,000

HOUSEHOLDS THAT ARE LOOKING FOR HOMES PRICED AT \$350,000 TEND TO HAVE FEWER OPTIONS IN HOWARD COUNTY, AND THOSE OPTIONS THAT DO EXIST TEND TO BE SMALLER AND OLDER

- ▶ On average, homes in this price range that are available for sale in Anne Arundel County are:
 - » **Townhomes:** Similarly sized (2% larger) but significantly newer (18 years) than what is available in Howard County
 - » **Single-Family Detached:** Slightly larger (4%) and slightly newer (4 years) than what is available in Howard County
- ▶ On average, homes in this price range that are available for sale in Baltimore County are:
 - » **Townhomes:** Much bigger (15% larger) and much newer (10 years) than what is available in Howard County
 - » **Single-Family Detached:** Much bigger (24%) and slightly newer (5 years) than what is available in Howard County
- ▶ At the time this analysis was conducted, there were also half as many of these townhomes available in Howard County than there were in Anne Arundel County and Baltimore County, and just 15-20% as many single-family detached homes.

	Howard County	Anne Arundel County	Baltimore County
Townhomes			
Single-Family Detached Homes			

*Note: Based on current listings available on Redfin as of April 2, 2020
Source: Redfin; RCLCO*

NEW HOMES FOR SALE

ON THE OTHER HAND, NEW HOMES IN HOWARD COUNTY TEND TO BE LARGER AND MORE EXPENSIVE THAN THOSE IN OTHER JURISDICTIONS

- As of April 2020, new construction single-family detached homes available in Howard County were 36% larger and 36% more expensive than those available in Anne Arundel County, as well as 16% larger and 40% more expensive than those available in Baltimore County. Likewise, new construction townhomes in Howard County were 9% larger and 18% more expensive than ones in Anne Arundel County, as well as 10% larger and 30% more expensive than ones in Baltimore County.

Comparison of New Construction Product, April 2020; Howard County and Other Nearby Jurisdictions

COUNTY		AVERAGE PRICE
Howard	 	<p>Townhomes: \$515,000 (2,471 SF)</p> <p>Single-Family Detached Homes: \$928,000 (4,025 SF)</p>
Anne Arundel	 	<p>Townhomes: \$438,000 (2,274 SF)</p> <p>Single-Family Detached Homes: \$684,000 (3,969 SF)</p>
Baltimore	 	<p>Townhomes: \$395,000 (2,246 SF)</p> <p>Single-Family Detached Homes: \$665,000 (3,462 SF)</p>

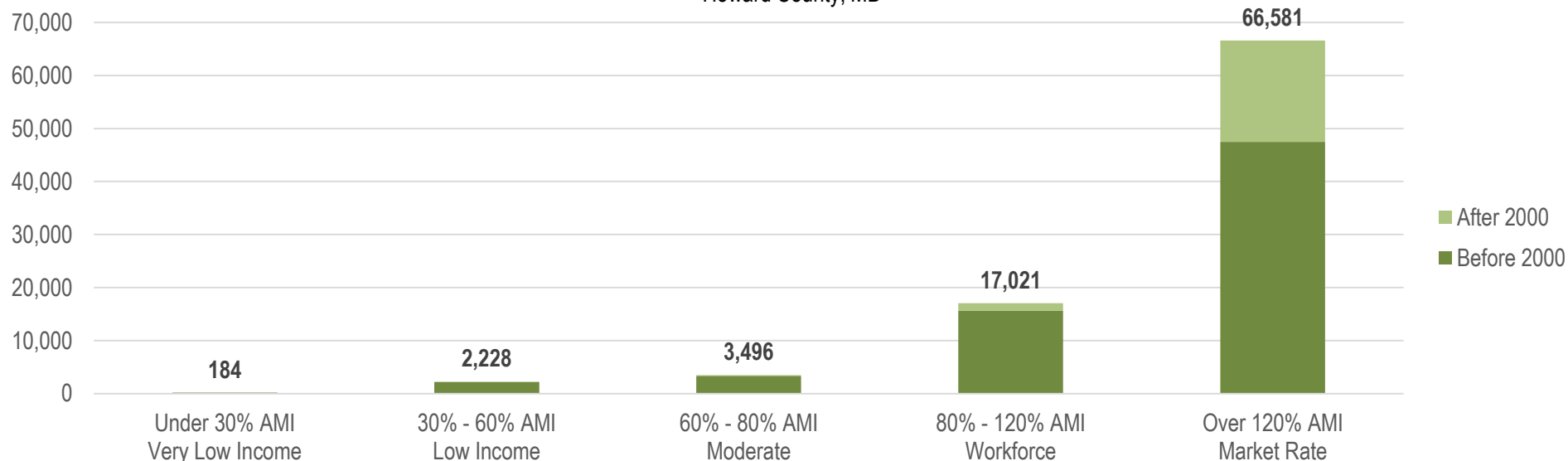
*Note: Based on current listings available on Redfin as of April 2, 2020
Source: Redfin*

FOR-SALE HOUSING AFFORDABILITY

MOST FOR-SALE HOUSING IN HOWARD COUNTY IS NOT AFFORDABLE TO HOUSEHOLDS MAKING LESS THAN 120% OF AMI

- Just one-quarter (25.6%) of for-sale housing units in Howard County are affordable to households making less than 120% of AMI, with most of this product being much older. This pattern indicates that households making less than this amount—equivalent to \$113,000 for a family of four—often cannot afford to purchase homes in Howard County without encountering cost burdens.

For-Sale Housing Inventory by AMI Band and Year Built, 2019;
Howard County, MD



	SFD	TH	Condo	MH	Total	%
FOR-SALE UNITS BUILT BEFORE 2000						
Under 30% AMI	7	2	55	111	176	0%
30% - 60% AMI	126	216	1,195	647	2,185	3%
60% - 80% AMI	593	1,133	1,423	202	3,351	5%
80% - 120% AMI	6,203	6,729	2,425	269	15,625	23%
Over 120% AMI	40,557	6,549	297	59	47,461	69%
TOTAL	47,486	14,629	5,395	1,288	68,799	

	SFD	TH	Condo	MH	Total	%
FOR-SALE UNITS BUILT AFTER 2000						
Under 30% AMI	2	0	6	0	8	0%
30% - 60% AMI	39	2	2	0	43	0%
60% - 80% AMI	98	23	24	0	145	1%
80% - 120% AMI	357	678	362	0	1,396	7%
Over 120% AMI	11,766	6,952	401	0	19,120	92%
TOTAL	12,262	7,655	795	0	20,712	

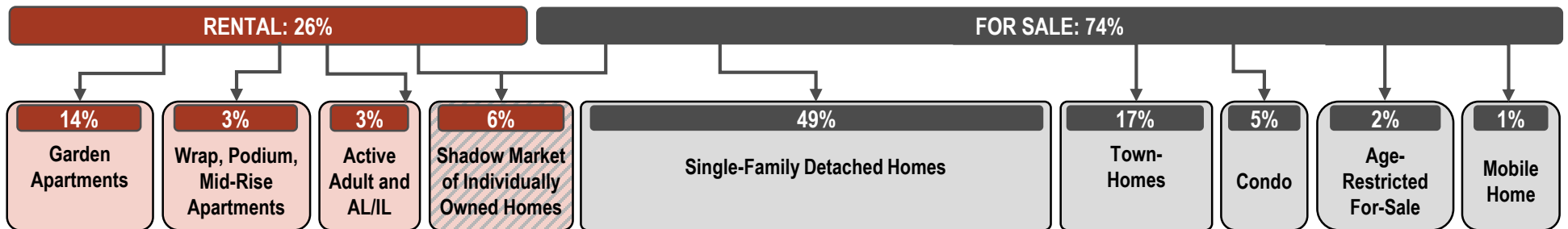
Source: CoStar; Howard County; Maryland Department of Assessments and Taxation; PUMS; RCLCO

RENTAL HOUSING INVENTORY

HOWARD COUNTY HAS A DIVERSE HOUSING INVENTORY, WHICH INCLUDES A VARIETY OF TYPES, SIZES, AND PRICE POINTS

- Using the same data from the For-Sale Housing Inventory, RCLCO performed a series of analyses to categorize rental apartments by affordability level.
 - » First, RCLCO collected detailed property-level data on all market-rate rental apartments in Howard County using a variety of third party data sources. This data included the number of units in each property and the average rent for each unit, by bedroom count. To incorporate income-restricted units, RCLCO supplemented this data with research from the 2018 Howard County Rental Survey, which included detailed information on the rents of such units.
 - » Similar to the steps taken in the for-sale housing inventory, RCLCO then separated “newer” units from “older” ones, again using the year 2000 as the cutoff.
 - » Next, RCLCO made a variety of assumptions to the estimate the number of residents in each type of rental apartment unit, for the purposes of determining affordability by AMI level. These assumptions were based on Low Income Housing Tax Credit (“LIHTC”) guidelines, which assume 1.0 residents per studio/efficiency unit and 1.5 persons per bedroom thereafter. For example, RCLCO assumed an average household size of 1.5 persons for one-bedroom rental apartment units, with half of those units occupied by one-person households and half of those units occupied by two-person households.
 - » Using these assumptions and all of the above information, RCLCO estimated the distribution of rental apartments by AMI level, assuming 30% of income is spent on rent. RCLCO then applied this distribution to the total number of rental apartments from the DPZ-provided inventory, for the purposes of consistency.
- RCLCO also included another category of rental housing—“shadow market” rentals—by estimating the number of individually owned homes that are rented out by landlords, as well as the rents the tenants pay.
 - » To do so, RCLCO utilized ACS data to estimate the share of “newer” single-family detached homes, “older” single-family detached homes, “newer” townhomes, and “older” townhomes” that are renter-occupied, and then applied this share to the previously calculated for-sale housing inventory. This bifurcation is intended to represent the fact that some types of units, such as “older” townhomes, are more likely to be rented out than others, such as “newer” single-family detached homes.
 - » RCLCO then relied on the same ACS data for information on the housing payments and income levels for the households that live in these units, in order to determine their affordability by AMI level.

Rental and For-Sale Inventory, 2019;
Howard County



Source: Howard County Department of Planning and Zoning; 2018 Howard County Rental Survey; Howard County Office on Aging and Independence; Maryland Department of Assessments and Taxation; CoStar; PUMS; RCLCO

RENTAL HOUSING INVENTORY

THE RENTAL HOUSING INVENTORY IN HOWARD COUNTY INCLUDES A RANGE OF PRODUCT TYPES

- This inventory includes purpose-built rental apartment communities of varying densities, active adult and seniors communities, as well as the “shadow market” of individually owned homes.

Rental Inventory, 2019;
Howard County






	GARDEN-STYLE APARTMENTS & TOWNHOMES	WRAP / PODIUM APARTMENTS	MIDRISE APARTMENTS	ACTIVE ADULT / SENIORS	SHADOW MARKET RENTALS
					
Avg. Size (SF)	970 SF	990 SF	920 SF	Varies by Level of Care	N/A
Typical Avg. Rent	\$1,575 \$1,000 to \$1,700	\$2,050 \$1,700 to \$1,900	\$1,425 \$1,100 to \$1,300	Varies by Level of Care	\$1,820 \$1,800 to \$1,900
Avg. Year Built	1983	2017	1972	2000	N/A
Est. Inventory	17,059	3,557	425	3,012	7,297
Est. Number of Units Built 2010-2019	2,273	3,451	0	422	698
Est. Share of Inventory	54%	11%	1%	10%	23%
Est. Share of Units Built 2010-2019	33%	50%	0%	6%	10%
Est. Number Affordable to <60% AMI	2,007 (12% of Units)	154 (4% of Units)	100 (24% of Units)	2,570 (85% of Units)	2,448 (34% of Units)

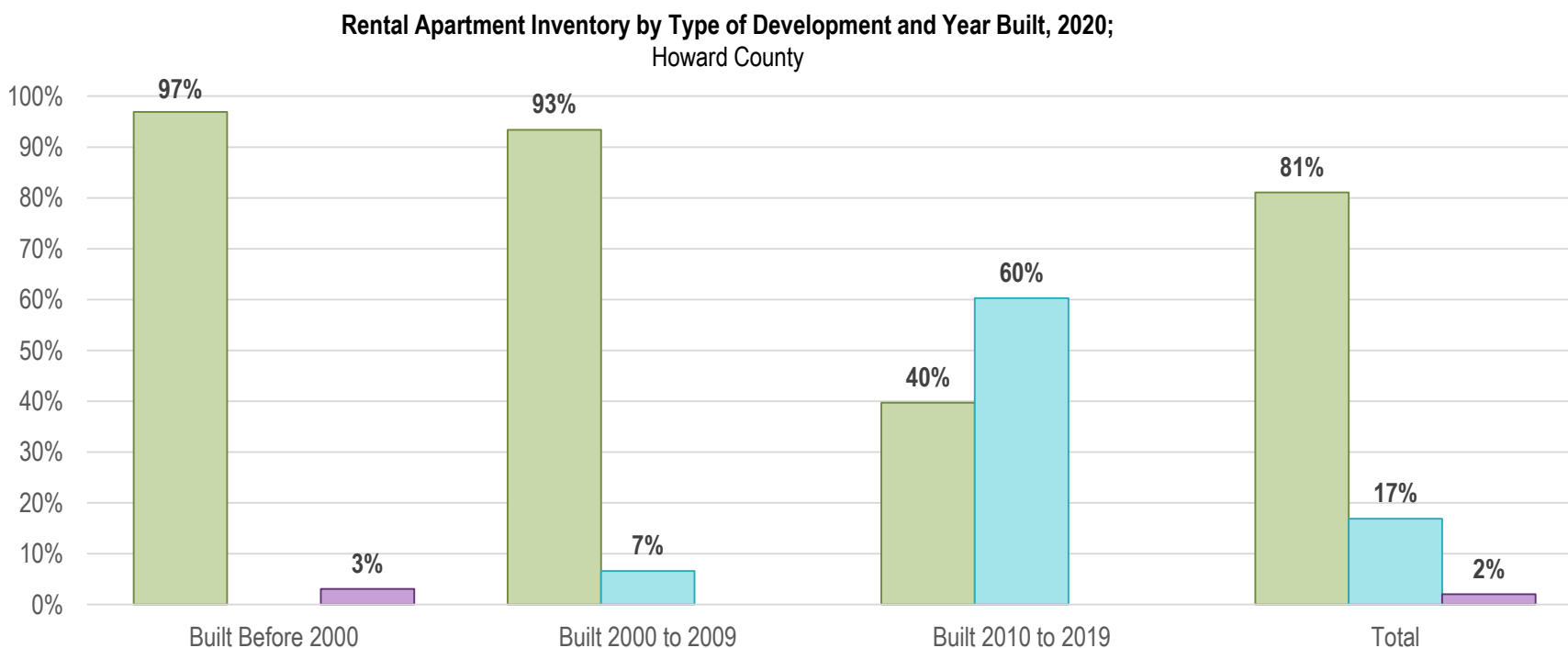
Image Source: Apartments.com; Redfin

Source: Howard County Department of Planning and Zoning; CoStar; Axiometrics; American Community Survey;
2018 Howard County Rental Survey; Howard County Office on Aging and Independence; RCLCO

AGE OF RENTAL HOUSING

OLDER RENTAL PRODUCT TENDS TO BE MORE SUBURBAN, WHEREAS NEWER RENTAL PRODUCT TENDS TO BE MORE URBAN

- While “urban” forms of construction (e.g., wrap/podium) represent an increasing share of purpose-built rental housing development in Howard County, a majority of units are still garden-style apartments or townhomes.



	BUILT BEFORE 2000	BUILT 2000 TO 2009	BUILT 2010 TO 2019	TOTAL
Garden/Townhomes	13,289	1,497	2,273	17,059
Wrap/Podium	0	106	3,451	3,557
Concrete Mid-Rise	425	0	0	425
TOTAL	13,714	1,603	5,724	21,041

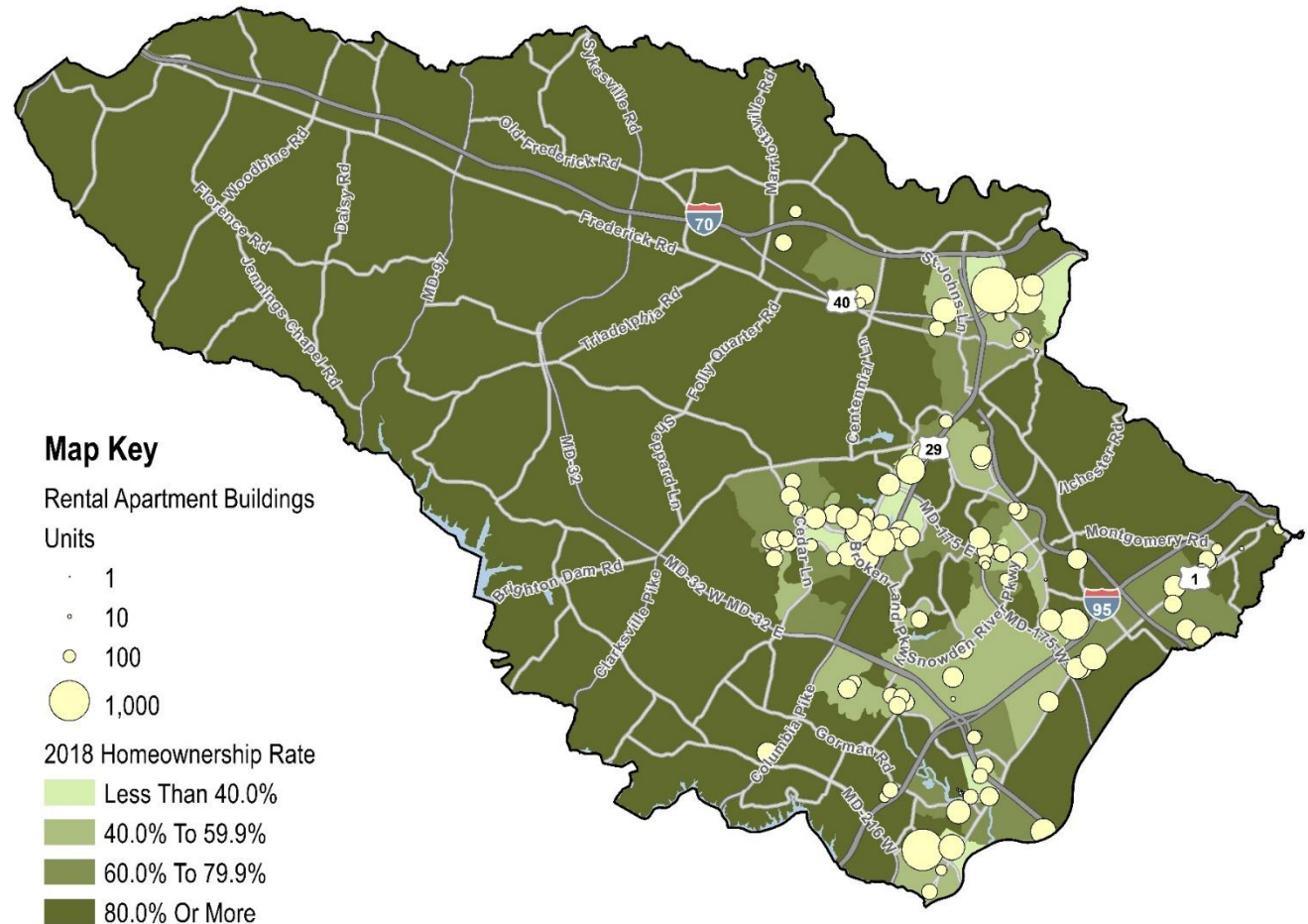
Source: CoStar; RCLCO

LOCATION OF RENTAL HOUSING

ONE REASON FOR THE UNEVEN HOMEOWNERSHIP RATES ACROSS HOWARD COUNTY IS THE LACK OF RENTAL COMMUNITIES IN CERTAIN NEIGHBORHOODS

- Today, most rental apartment and townhome communities are located in Eastern Howard County, including Columbia and the Route 1 Corridor, in particular.
- Meanwhile, there are fewer options for renters in Western Howard County, where the “shadow market” of individually owned homes represents most, if not all, of the rental housing inventory.

Map of Rental Apartment Buildings and Homeownership Rates, 2020;
Howard County, MD



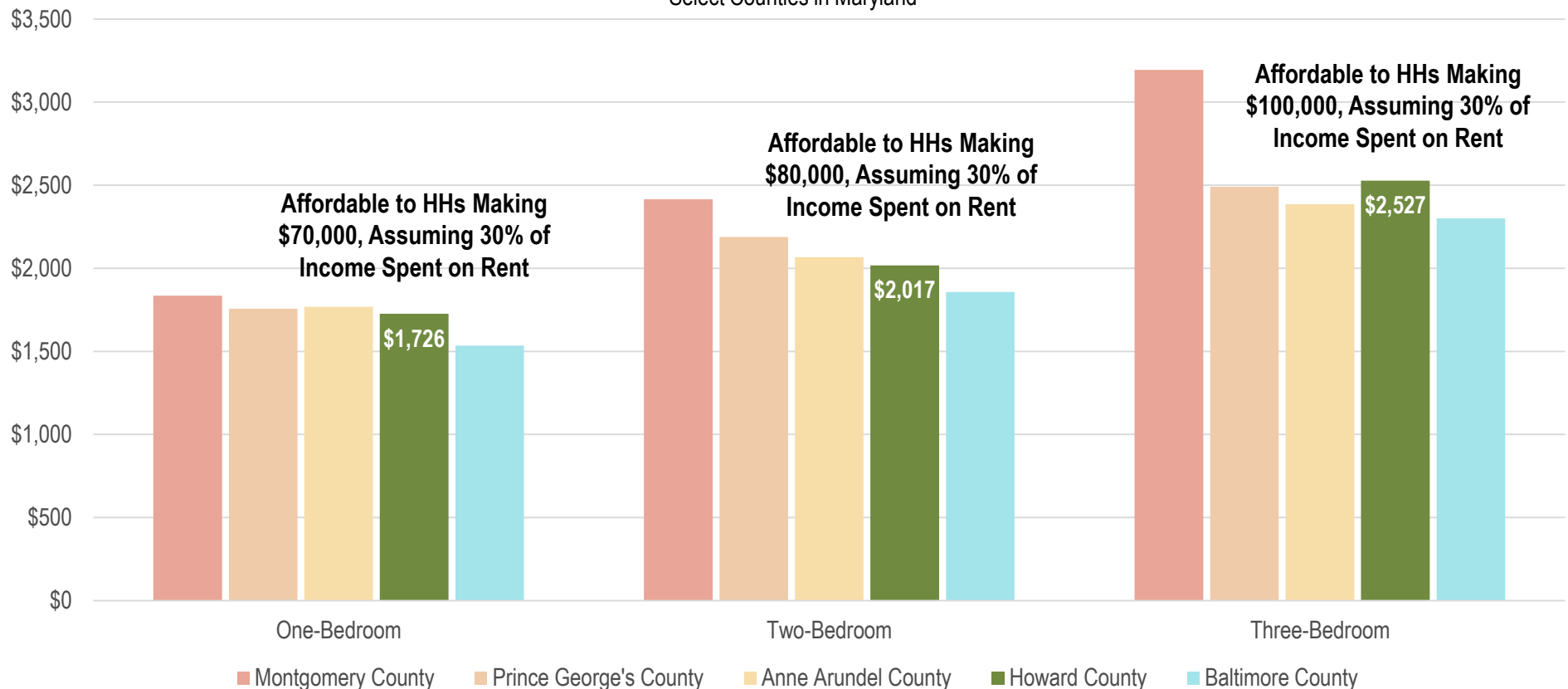
Source: CoStar; Esri; RCLCO

PRICING OF NEW RENTAL APARTMENTS

NEW RENTAL APARTMENT COMMUNITIES IN HOWARD COUNTY ARE OFTEN AFFORDABLE TO MIDDLE-INCOME RENTERS

- Even though income levels are generally higher in Howard County than they are in other surrounding jurisdictions, new rental housing is often more affordable in Howard County than it is in those same jurisdictions. On average, the units at new rental apartment communities in Howard County are affordable to households making roughly AMI, while this dynamic is not the case in some other jurisdictions.

Average Asking Rents for Apartments in “New” Buildings by Bedroom Count, March 2020;
Select Counties in Maryland



Note: “New” is defined as those buildings that delivered after 2010

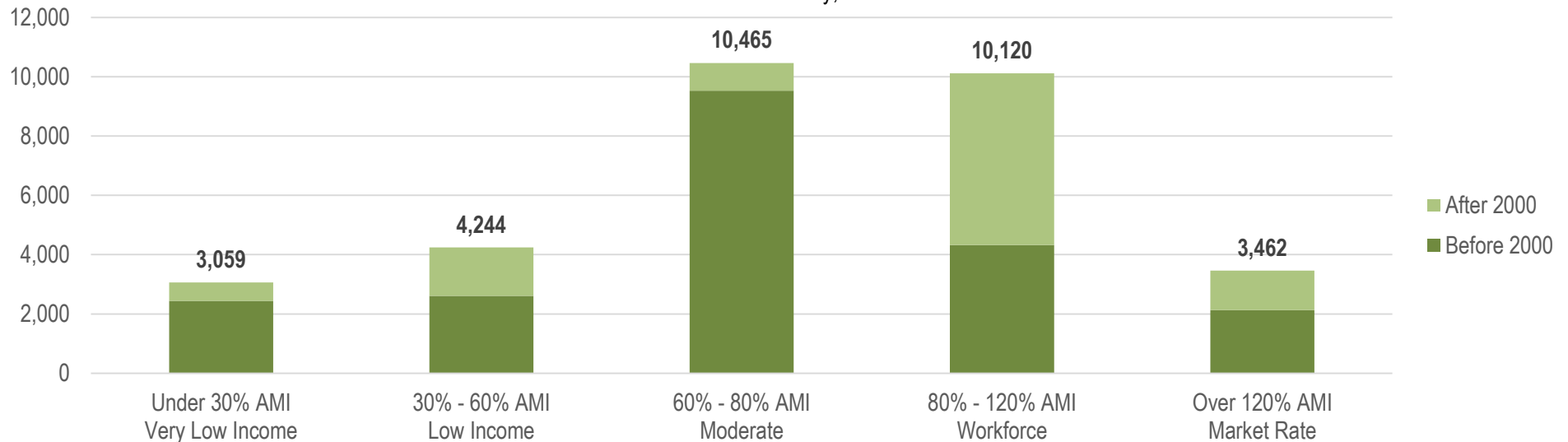
Source: Axiometrics; RCLCO

RENTAL HOUSING AFFORDABILITY

WHILE NEW RENTAL HOUSING IS GENERALLY AFFORDABLE TO WORKFORCE HOUSEHOLDS, OLDER RENTAL HOUSING IS STILL NECESSARY TO SERVE MODERATE-, LOW-, AND VERY LOW-INCOME HOUSEHOLDS

► Most attainable rental stock for moderate-, low-, and very low-income households is older, highlighting the importance of preserving those units.

Rental Housing Inventory by AMI Band and Year Built, 2019;
Howard County, MD



	Studio	1BR	2BR	3BR	4BR	Active Adult / Seniors	Shadow Market	Total	%
RENTAL UNITS BUILT BEFORE 2000									
Under 30% AMI	0	255	377	116	43	337	1,312	2,440	12%
30% - 60% AMI	0	564	351	61	0	759	874	2,609	12%
60% - 80% AMI	26	2,910	5,532	600	3	0	461	9,532	45%
80% - 120% AMI	0	1,598	1,224	340	9	0	1,149	4,320	21%
Over 120% AMI	0	0	0	0	0	0	2,126	2,126	10%
TOTAL	26	5,326	7,484	1,117	54	1,096	5,923	21,027	

	Studio	1BR	2BR	3BR	4BR	Active Adult / Seniors	Shadow Market	Total	%
RENTAL UNITS BUILT AFTER 2000									
Under 30% AMI	0	53	54	0	0	297	214	619	6%
30% - 60% AMI	0	167	148	96	0	1,176	49	1,635	16%
60% - 80% AMI	12	153	629	33	0	5	101	933	9%
80% - 120% AMI	80	2,100	2,647	501	0	202	271	5,800	56%
Over 120% AMI	0	47	210	103	0	235	740	1,335	13%
TOTAL	92	2,520	3,689	732	0	1,916	1,374	10,323	

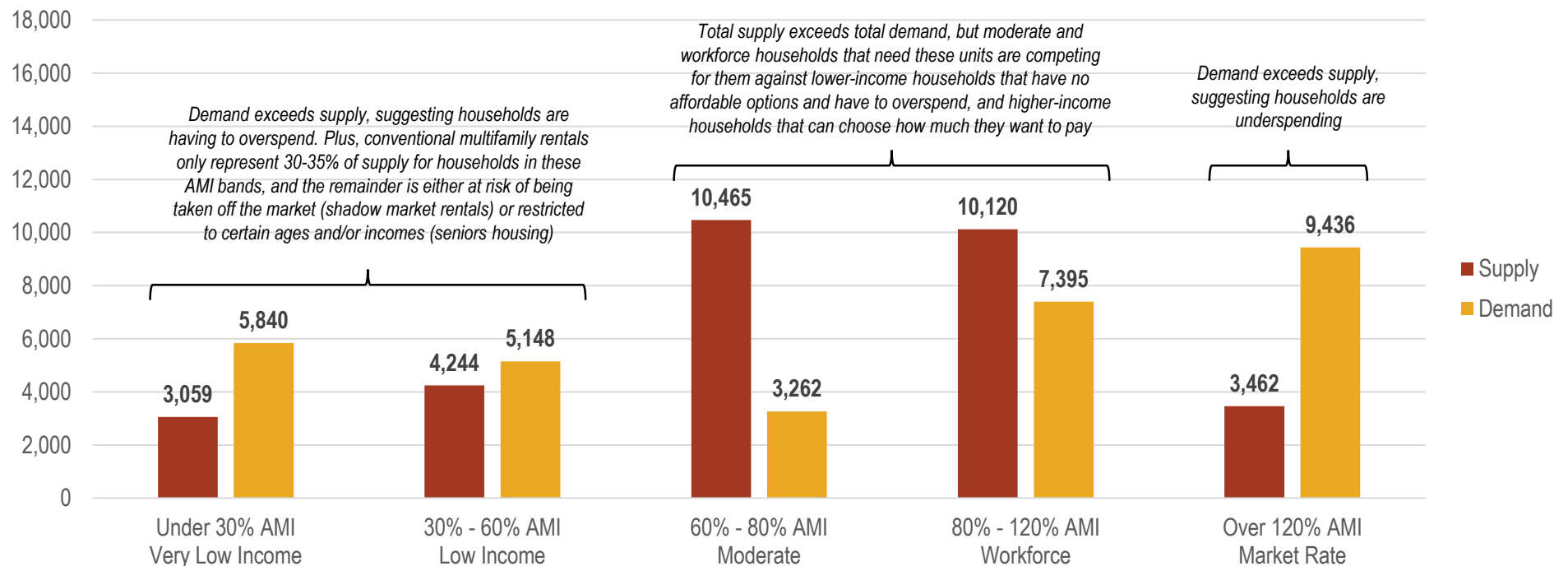
Source: CoStar; Howard County; Maryland Department of Assessments and Taxation; PUMS; RCLCO

SUPPLY & DEMAND BALANCE

MISMATCHES BETWEEN SUPPLY AND DEMAND FOR RENTAL UNITS IS PLACING PRESSURE ON THE MIDDLE OF THE MARKET

- ▶ Looking at the rental housing inventory, there is a considerable mismatch between the number of households that earn more than 120% of AMI and the number of units that are priced to serve these households. This dynamic suggests a large number of high-income renter households are living in units that are below their means, and might be needed by other moderate- and low-income households. Meanwhile, demand exceeds supply at less than 60% of AMI.
- ▶ Together, these mismatches are placing considerable pressure on the middle of the market, wherein lower-income households are overspending and higher-income households are underspending, thereby crowding out the demand for moderate-income housing.

Comparison of Rental Housing Supply and Demand by AMI Band, 2019;
Howard County, MD



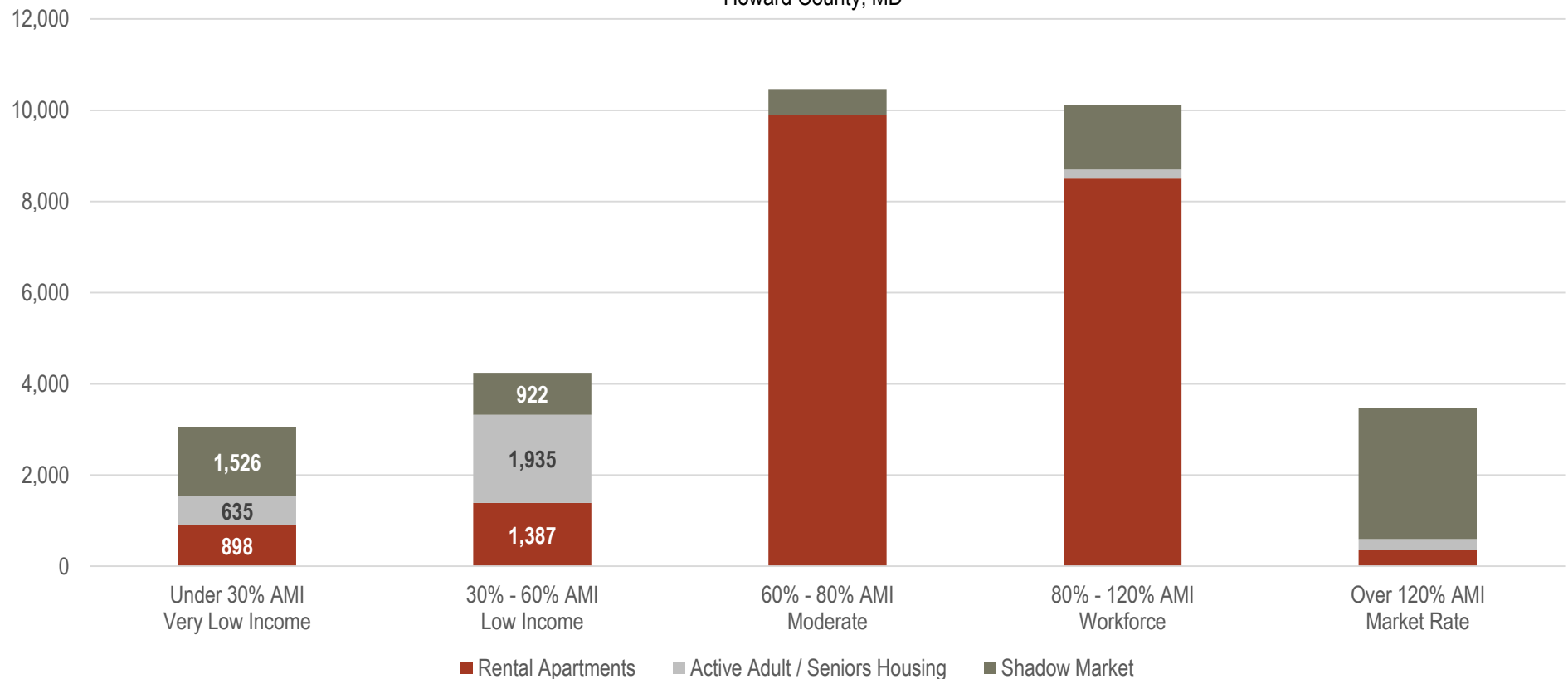
Source: Howard County Department of Planning and Zoning; CoStar; Axiometrics; American Community Survey; 2018 Howard County Rental Survey; Howard County Office on Aging and Independence; RCLCO

OPTIONS FOR LOW-INCOME HOUSEHOLDS

THE MISMATCH BETWEEN SUPPLY AND DEMAND AT LESS THAN 60% OF AMI IS EXACERBATED BY THE FACT THAT ORGANIZED MULTIFAMILY RENTAL COMMUNITIES ACCOUNT FOR VERY FEW OF THE UNITS THAT SERVE THESE HOUSEHOLDS

- Nearly 70% of rental housing units that are affordable to renters making less than 60% of AMI are “shadow market” rentals (34%) or active adult/seniors housing units (35%), many of which are income-restricted. This dynamic exacerbates the imbalance between supply and demand because many households, including families, do not qualify for the active adult/seniors housing units. Likewise, the shadow market rentals are at risk of being taken off the market if their owners decide to sell or redevelop.

Rental Supply by AMI Band and Product Type, 2019;
Howard County, MD



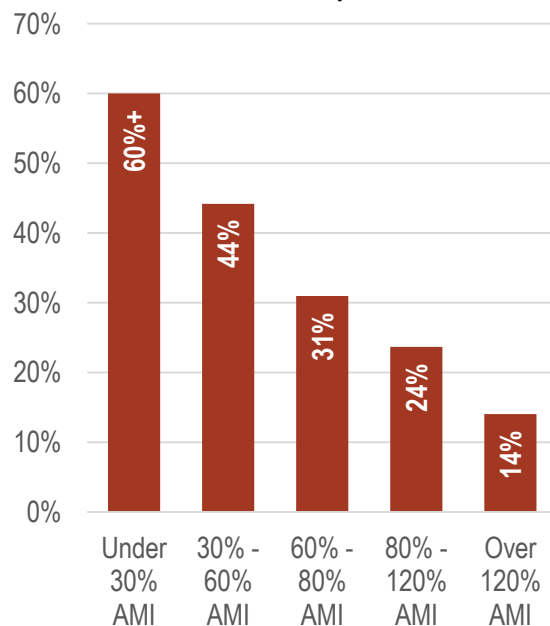
Source: Howard County Department of Planning and Zoning; CoStar; Axiometrics; American Community Survey; 2018 Howard County Rental Survey; Howard County Office on Aging and Independence; RCLCO

COST BURDEN OF RENTAL HOUSING

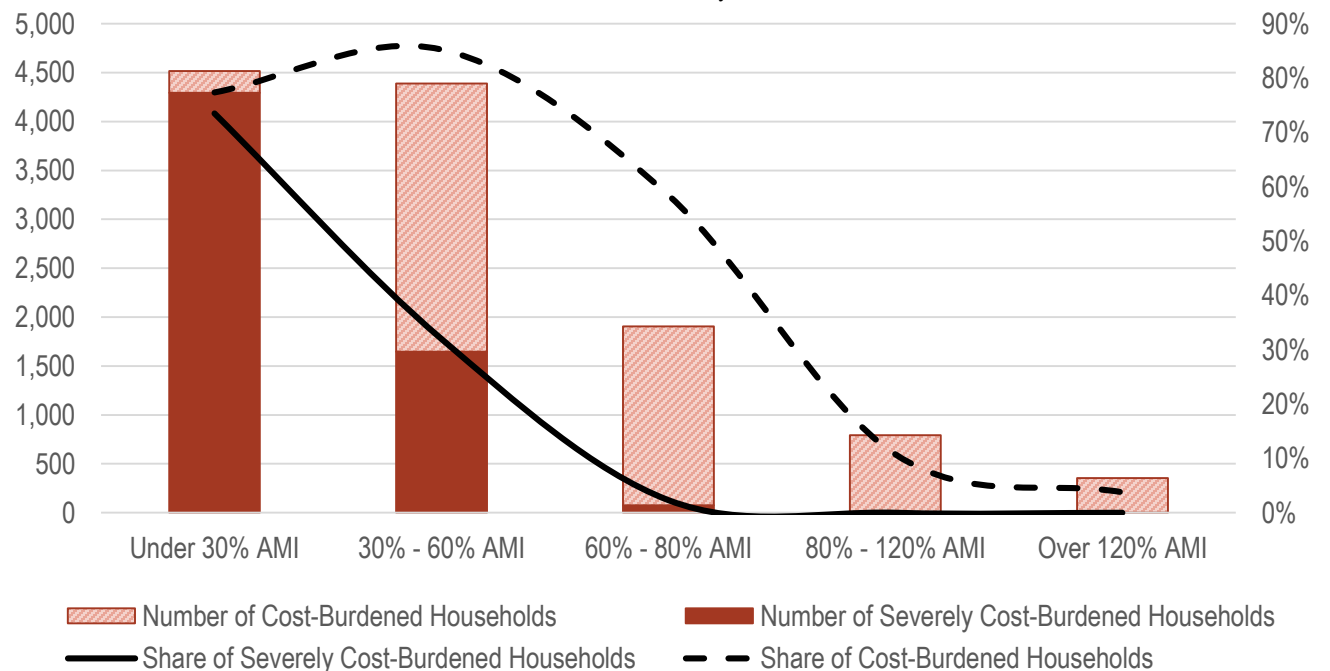
IN THE CASE OF RENTAL HOUSING, MOST COST BURDENS ARE FELT BY LOW- AND VERY LOW-INCOME HOUSEHOLDS

- The Department of Housing and Urban Development (“HUD”) indicates that households paying more than 30% of their income for housing are considered “cost burdened.” When facing cost burdens, households may struggle to pay for other necessities, such as food, medical care, or transportation.
- » In Howard County, 38% of renter households are cost-burdened. In Howard County, low- and very low-income households are disproportionately more likely to experience cost burdens, as demonstrated by the fact that more than 80% of renter households that make less than 60% of AMI meet this definition. Together, these renters represent nearly three-quarters (74%) of cost-burdened renter households, despite representing just 35% of all renter households.
- This mismatch is also true of “severely cost burdened” households, defined as those households spending more than 50% of their income on housing payments.
- » In Howard County, 19% of renter households are severely cost-burdened, including 54% of renter households making less than 60% of AMI.

Average % of Income Spent on Housing, 2016-2018;
Howard County, MD



Number and Share of Cost-Burdened Households, 2019;
Howard County, MD

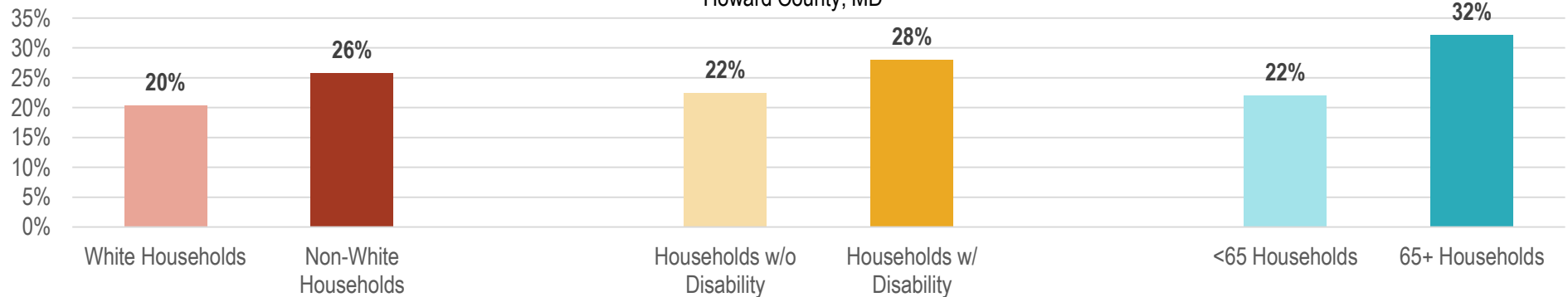


Source: American Community Survey 2016-2018; RCLCO

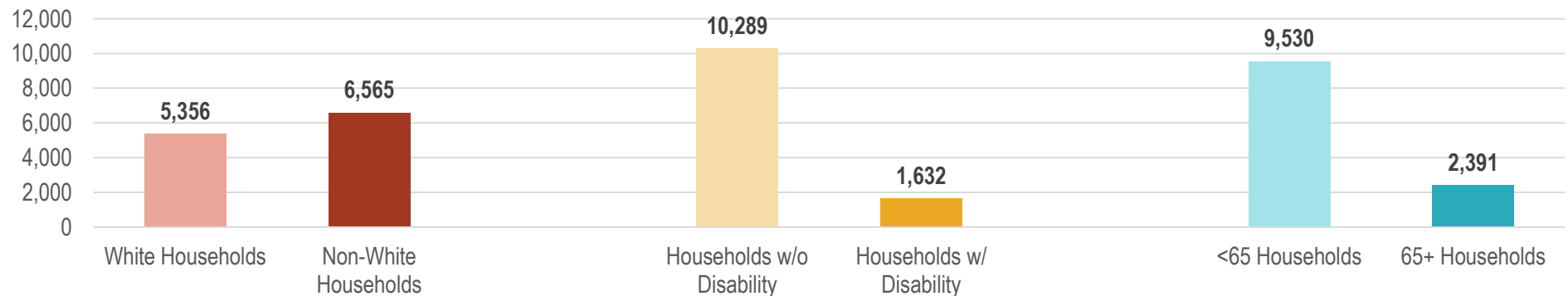
COST BURDEN OF RENTAL HOUSING

COST-BURDENED HOUSEHOLDS ARE DEMOGRAPHICALLY DIVERSE, THOUGH NON-WHITE HOUSEHOLDS, HOUSEHOLDS IN WHICH ONE OR MORE MEMBERS HAS A DISABILITY, AND SENIOR HOUSEHOLDS ARE DISPROPORTIONATELY MORE LIKELY TO EXPERIENCE THESE COST BURDENS

Average Percent of Income Spent on Rental Housing, 2016-2018;
Howard County, MD



Number of Cost-Burdened Renter Households, 2019;
Howard County, MD



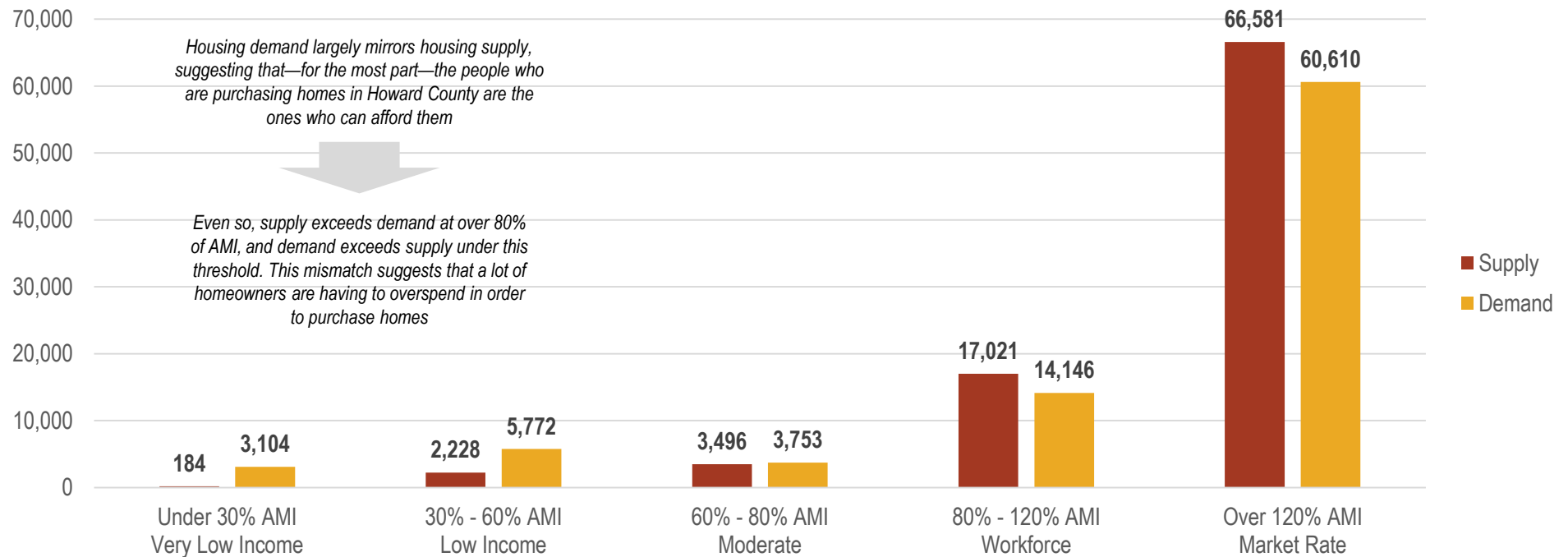
Note: "Cost-Burdened" households include those households spending more than 30% of their incomes on housing payments

Source: American Community Survey 2016-2018; RCLCO

HOUSEHOLDS THAT OWN THEIR OWN HOMES IN HOWARD COUNTY ARE MUCH MORE LIKELY TO BE AFFLUENT, IN PART DUE TO THE TYPE OF FOR-SALE HOUSING THAT EXISTS IN THE COUNTY TODAY

- ▶ Looking at the for-sale housing inventory, demand tends to follow supply, with a large number of homeowners who make more than 120% of AMI and far fewer homeowners who make less than this amount. This dynamic suggests that, for the most part, the people who are purchasing homes in Howard County are the ones who can afford them.
- ▶ Even so, there remains more demand than supply at price points above 80% of AMI, which suggests that people who make less than this amount are having to overspend in order to purchase homes in the County.

Comparison of For-Sale Housing Supply and Demand by AMI Band, 2019;
Howard County, MD



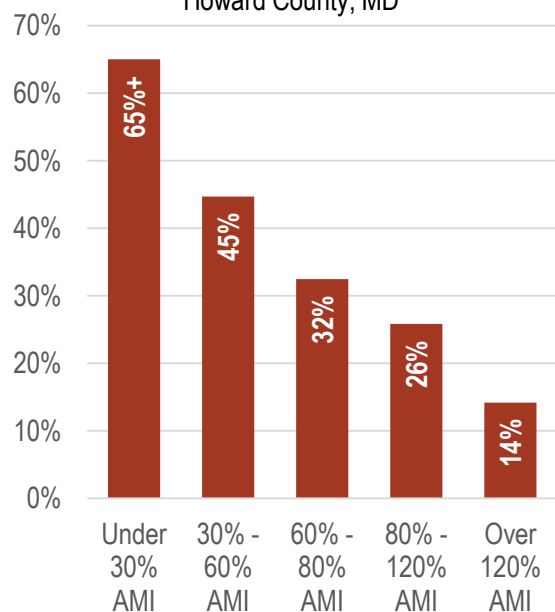
Source: Howard County Department of Planning and Zoning; Howard County GIS; Maryland Department of Planning; American Community Survey; RCLCO

COST BURDEN OF FOR-SALE HOUSING

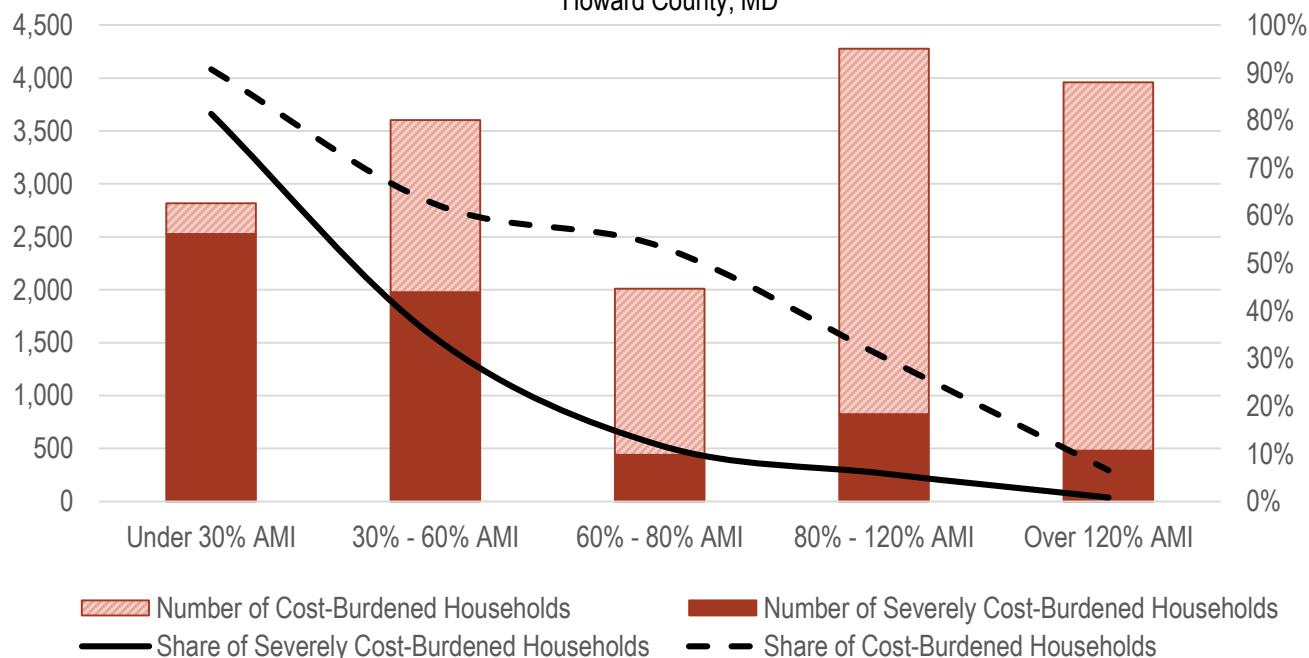
COST BURDENS IMPACT HOMEOWNERS OF ALL INCOMES, THOUGH THEY ARE FAR MORE LIKELY TO IMPACT LOW- AND VERY LOW-INCOME HOUSEHOLDS

- While most cost-burdened renter households are low- or very-income, cost-burdened owner households are economically diverse. In Howard County, 19% of owner households are cost-burdened, with roughly half of these households making more than 80% of AMI and roughly half of these households making less than this amount. This dynamic suggests that the high cost of for-sale housing in the County impacts households of all economic backgrounds.
- » However, it is important to note that these cost burdens are disproportionately more likely to impact lower-income households. In Howard County, 91% of owner households that make less than 30% of AMI, 62% of owner households that make between 30% and 60% of AMI, and 54% of owner households that make between 60% and 80% of AMI are cost-burdened, compared to 11% of owner households that make more than these amounts.
- Moreover, severe cost burdens are almost exclusively felt by low- and very low-income households, who together represent 72% of owners in the County who spend more than 50% of their income on housing.

Average % of Income Spent on Housing, 2016-2018;
Howard County, MD



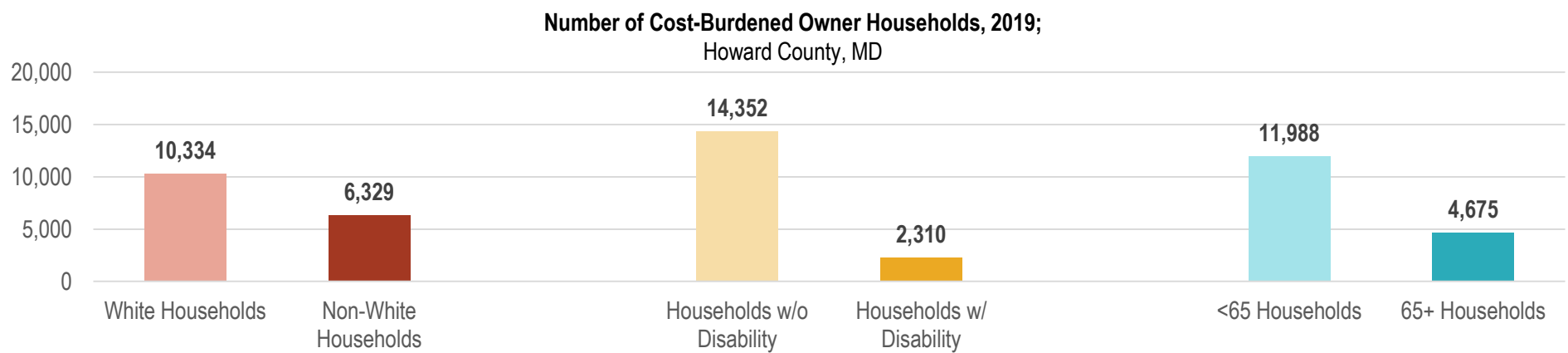
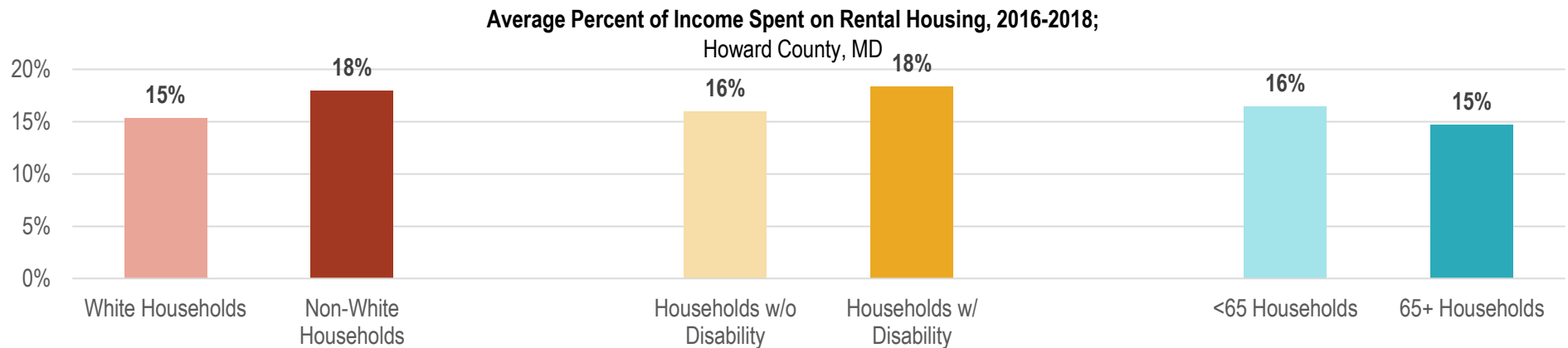
Number and Share of Cost-Burdened Households, 2019;
Howard County, MD



Source: American Community Survey 2016-2018; RCLCO

COST BURDEN OF FOR-SALE HOUSING

COST-BURDENED HOUSEHOLDS ARE DEMOGRAPHICALLY DIVERSE, THOUGH NON-WHITE HOUSEHOLDS, HOUSEHOLDS IN WHICH ONE OR MORE MEMBERS HAS A DISABILITY, AND SENIOR HOUSEHOLDS ARE DISPROPORTIONATELY MORE LIKELY TO EXPERIENCE THESE COST BURDENS



Note: "Cost-Burdened" households include those households spending more than 30% of their incomes on housing payments

Source: American Community Survey 2016-2018; RCLCO

UNDERSERVED GROUPS

TODAY, UNDERSERVED GROUPS IN HOWARD COUNTY ARE ECONOMICALLY AND DEMOGRAPHICALLY DIVERSE

- Based on the market research conducted by RCLCO, underserved groups in Howard County include workforce families, market-rate families, seniors, low-income renters, and professionals and other renters-by-choice, all of whom require a greater quantity and diversity of homes to be supplied by the market.

Summary of Underserved Groups and Strategies to Better Serve, 2020; Howard County, MD

DEMOGRAPHIC GROUP	REASON FOR BEING UNDERSERVED	WAYS TO BETTER SERVE	LIKELY IMPACT OF BEING BETTER SERVED
Workforce Families	New development is generally targeting families with higher incomes given limited units allowed to be built each year	Allow for greater quantity and diversity of homes to be supplied by the market	Allows for a greater diversity of households in Howard County, and increases the likelihood that people who work here will be able to live here as well
Market Rate Families	Limited number of detached homes being built, and most are large and expensive	Allow for greater quantity and diversity of homes to be supplied by the market	Allows for a greater diversity of households in Howard County, and increases the likelihood that people who work here will be able to live here as well
Older Adults and Persons with Disabilities	Very few homes that fit their needs to move and/or downsize into, especially in the case of newer homes	Develop a greater diversity of housing, including small-lot and single-story homes; accessible units; accessory dwelling units; 55+ communities	Increases the likelihood that these households will stay in Howard County but move out of their existing homes, thereby freeing up older forms of housing
Low-Income Renters	Most new rental product is more urban and more expensive, and older product runs the risk of being redeveloped over time	Preserve existing garden-style rental apartments, which are generally older and more affordable	Allows for a greater diversity of households in Howard County, and increases the likelihood that people who work here will be able to live here as well
Professionals & Other Renters-By-Choice	Many of these renter households could afford newer and/or nicer product than the homes in which they live today	Develop more market-rate apartments, likely in urban and/or urbanizing locations	Reduces the likelihood of higher-income households crowding out the rental market for households that require older apartments that are more attainably priced

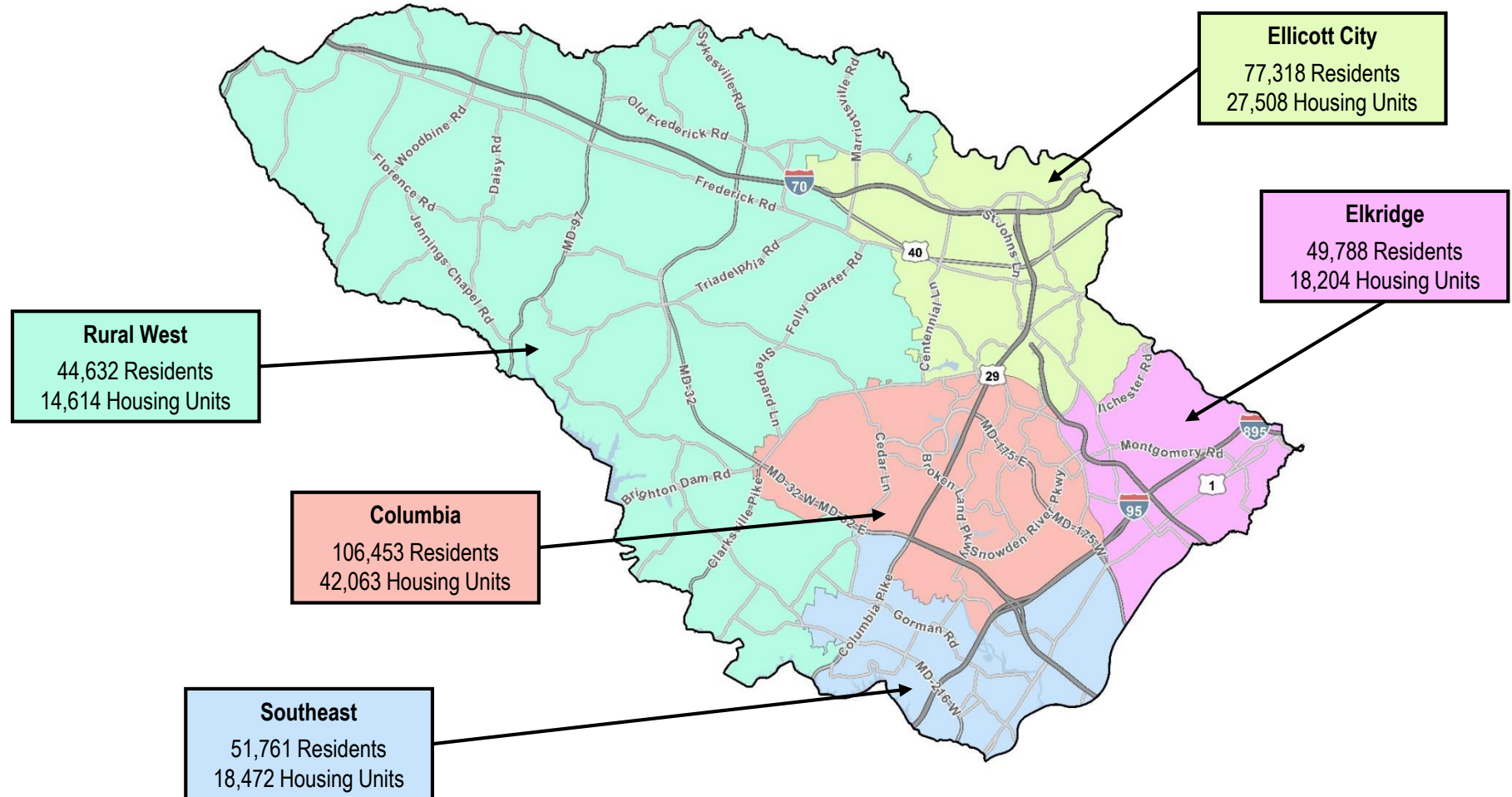
Source: RCLCO

SUBMARKET COMPARISON

SUBMARKET OVERVIEW

RCLCO RELIED ON THE FOLLOWING PLANNING AREAS TO COMPARE HOUSING IN DIFFERENT SUBMARKETS

Map of Submarkets, 2020;
Howard County, MD



Source: Howard County GIS; Howard County Department of Planning and Zoning; Esri; RCLCO

SUBMARKET COMPARISON

Economic and Demographic Comparison by Submarket, 2019;
Howard County, MD

	POPULATION	HHs	FAMILIES	AVG. HOUSEHOLD SIZE	MEDIAN AGE	75+ HHs	MEDIAN HOUSEHOLD INCOME	POP. WITH A BACHELOR'S DEGREE	NON-WHITE POPULATION	HHs W/ 1+ PEOPLE W/ DISABILITY	HHS BELOW POVERTY LEVEL
Columbia	106,453	42,154	27,234 (65% of HHs)	2.5	39	1,621 (4% of HHs)	\$103,727	24,291 (33% of Pop.)	60,945 (57% of Pop.)	6,534 (16% of HHs)	2,563 (6% of HHs)
Elkridge	49,788	17,597	12,422 (71% of HHs)	2.8	36	301 (2% of HHs)	\$109,674	10,263 (31% of Pop.)	24,914 (50% of Pop.)	2,214 (13% of HHs)	670 (4% of HHs)
Ellicott City	77,318	27,453	20,725 (75% of HHs)	2.8	42	1,236 (5% of HHs)	\$119,593	15,985 (30% of Pop.)	36,570 (47% of Pop.)	4,432 (16% of HHs)	1,077 (4% of HHs)
Rural West	44,632	14,240	12,377 (87% of HHs)	3.1	47	294 (2% of HHs)	\$166,772	9,527 (31% of Pop.)	12,438 (28% of Pop.)	2,430 (17% of HHs)	301 (2% of HHs)
Southeast	51,761	17,618	13,112 (74% of HHs)	2.9	37	266 (2% of HHs)	\$108,447	9,141 (26% of Pop.)	30,853 (60% of Pop.)	2,583 (15% of HHs)	774 (4% of HHs)
HOWARD COUNTY	329,952	119,062	85,870 (72% of HHs)	2.8	40	3,718 (3% of HHs)	\$121,643	69,207 (30% of Pop.)	167,720 (50% of Pop.)	18,193 (15% of HHs)	5,385 (5% of HHs)

Housing Inventory Comparison by Submarket, 2019;
Howard County, MD

	TOTAL HOUSING UNITS	OWNER- OCCUPIED UNITS	RENTER- OCCUPIED UNITS	SINGLE- FAMILY DETACHED	TOWNHOME	MULTIFAMILY	AVG. SALES PRICE (2015-2018)	AVG. RENT	MEDIAN YEAR BUILT	UNITS BUILT BEFORE 1970	UNITS BUILT BEFORE 2000
Columbia	42,063	28,383 (67% of Units)	13,680 (33% of Units)	16,148 (38% of Units)	11,299 (27% of Units)	14,616 (35% of Units)	\$371,992	\$1,660	1981	3,811 (9% of Units)	39,646 (94% of Units)
Elkridge	18,204	13,774 (76% of Units)	4,430 (24% of Units)	7,503 (41% of Units)	5,245 (29% of Units)	4,597 (25% of Units)	\$390,298	\$1,739	1992	1,471 (8% of Units)	10,891 (60% of Units)
Ellicott City	27,508	19,774 (72% of Units)	7,734 (28% of Units)	15,734 (57% of Units)	4,591 (17% of Units)	7,183 (26% of Units)	\$528,546	\$1,556	1988	5,989 (22% of Units)	19,665 (71% of Units)
Rural West	14,614	14,108 (97% of Units)	506 (3% of Units)	14,538 (99% of Units)	68 (0% of Units)	6 (0% of Units)	\$750,316	-	1984	2,506 (17% of Units)	10,932 (75% of Units)
Southeast	18,472	13,074 (71% of Units)	5,398 (29% of Units)	8,078 (44% of Units)	6,126 (33% of Units)	3,841 (21% of Units)	\$484,365	\$1,646	1989	1,718 (9% of Units)	13,435 (73% of Units)
HOWARD COUNTY	120,861	89,113 (74% of Units)	31,748 (26% of Units)	62,001 (51% of Units)	27,329 (23% of Units)	30,243 (25% of Units)	\$474,593	\$1,650	1988	15,496 (13% of Units)	94,570 (78% of Units)

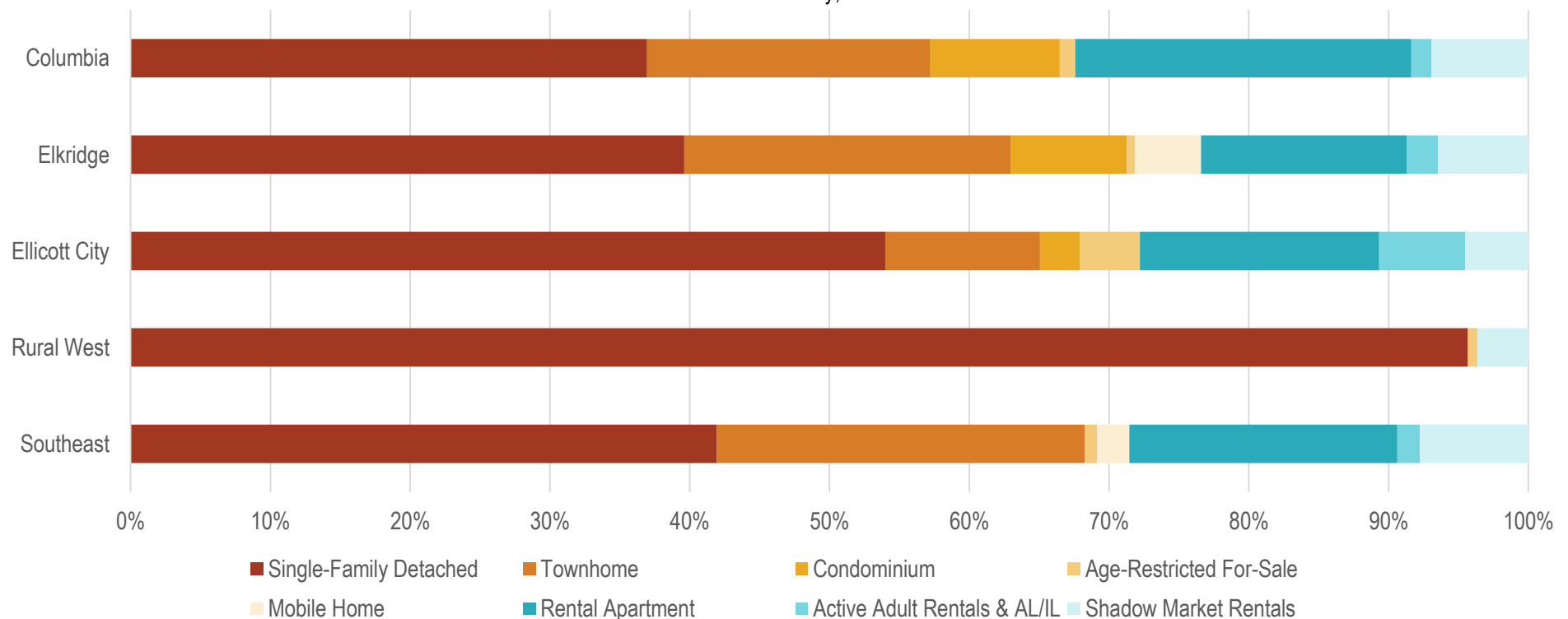
Source: Source: Howard County Department of Planning and Zoning; Howard County GIS; Maryland Department of Planning; Esri; RCLCO

HOUSING INVENTORY COMPARISON

MOST SUBMARKETS IN HOWARD COUNTY OFFER A RANGE OF HOUSING OPTIONS, THOUGH SINGLE-FAMILY DETACHED HOMES ARE THE PREDOMINANT PRODUCT TYPE IN THE RURAL WEST

- Conventional, owner-occupied single-family detached homes account for nearly 96% of housing units in the Rural West, compared to 54% in Ellicott City, 42% in Southeast, 40% in Elkridge, and 37% of Columbia. This comparison indicates that, with the exception of the Rural West, most parts of Howard County maintain diverse housing inventories.
- Likewise, conventional rental apartments, active adult/seniors rental apartments, and shadow market rentals account for 32% of housing units in Columbia, 29% of housing units in Southeast, 28% of housing units in Ellicott City, and 23% of housing units in Elkridge, compared to just 4% of housing units in the Rural West. This comparison highlights the fact that most housing options for renter households in Howard County are concentrated in Eastern Howard County.

**Distribution of Housing Inventory, 2019;
Howard County, MD**



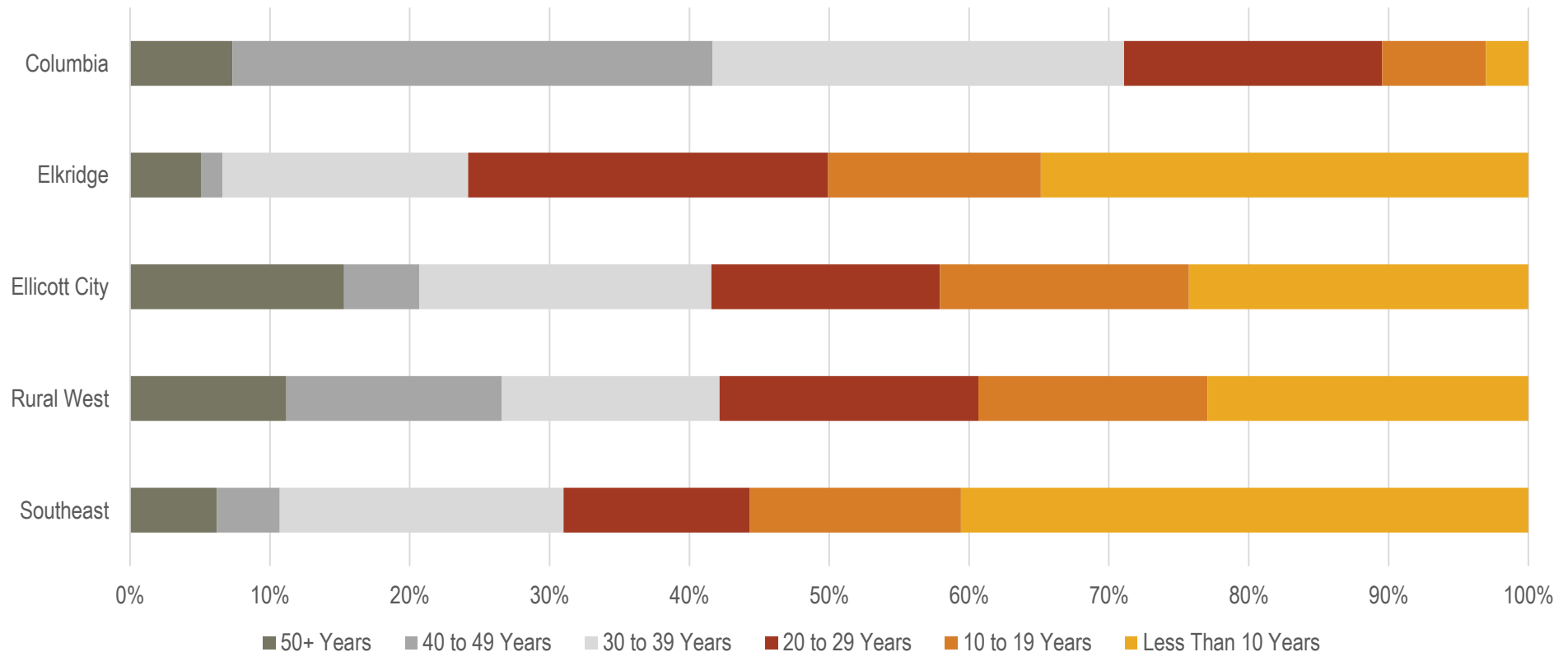
Source: Howard County Department of Planning and Zoning; Howard County GIS; Maryland Department of Planning; American Community Survey; RCLCO

HOUSING AGE COMPARISON

THERE ARE FEW DIFFERENCES IN THE AGE OF FOR-SALE HOUSING IN MOST SUBMARKETS, APART FROM COLUMBIA, WHERE HOMES ARE TYPICALLY OLDER

- Between 2015 and 2018, more than 71% of homes that sold in Columbia were built more than 30 years ago, compared to between 24% and 42% in each of the other planning areas. This difference highlights that most for-sale homes in Columbia tend to be older, which is part of the reason why they also tend to be more affordable. However, the sales prices of these homes do not necessarily take into account the repairs and/or upgrades that may be necessary, given their ages.

Age Distribution of Homes Sold, 2015-2018;
Howard County, MD



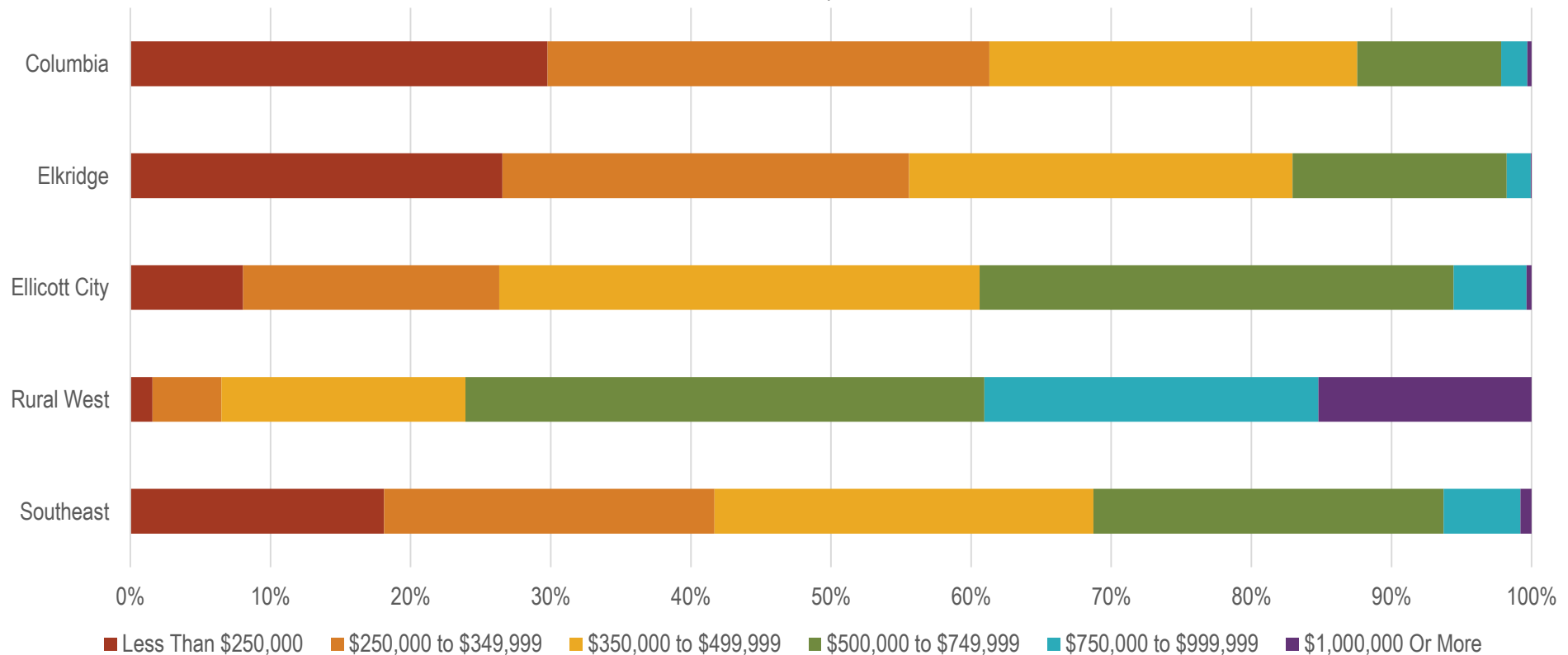
Source: Maryland Department of Planning; RCLCO

SALES PRICE COMPARISON

MOST SUBMARKETS IN HOWARD COUNTY SERVE A RANGE OF ECONOMIC SEGMENTS, WITH PRICES OFTEN BEING TIED TO THE TYPE AND AGE OF HOUSING THAT EXISTS

- Between 2015 and 2018, 44% of home sales in Howard County took place at price points below \$350,000, including 61% of sales in Columbia, 56% of sales in Elkridge, 42% of sales in Southeast, and 26% of sales in Ellicott City. These figures illustrate that submarkets with older and/or more diverse housing inventories tend to have greater numbers of attainable housing options. Meanwhile, just 7% of home sales in the Rural West took place below this threshold, likely due to the fact that the vast majority of homes that sold were larger and detached.

Price Distribution of Homes Sold, 2015-2018;
Howard County, MD



Source: Maryland Department of Planning; RCLCO

PREMIUM FOR NEW PRODUCT

NEW HOMES TEND TO COMMAND SIGNIFICANT PREMIUMS OVER OLDER OPTIONS, PARTICULARLY IN COLUMBIA

- Between 2015 and 2018, the average sales price for “new construction” single-family detached homes in Columbia was more than double that of all other single-family detached homes. This premium was narrower in other parts of the County, pointing to outsized demand for newer and/or higher-quality product in Columbia, in particular.

Average Sales Price for “New Construction” and All Other Homes, 2015-2018;
Howard County, MD



Note: "New Construction" is defined as those homes that were built within one year of the year in which they sold

Source: Maryland Department of Planning; RCLCO

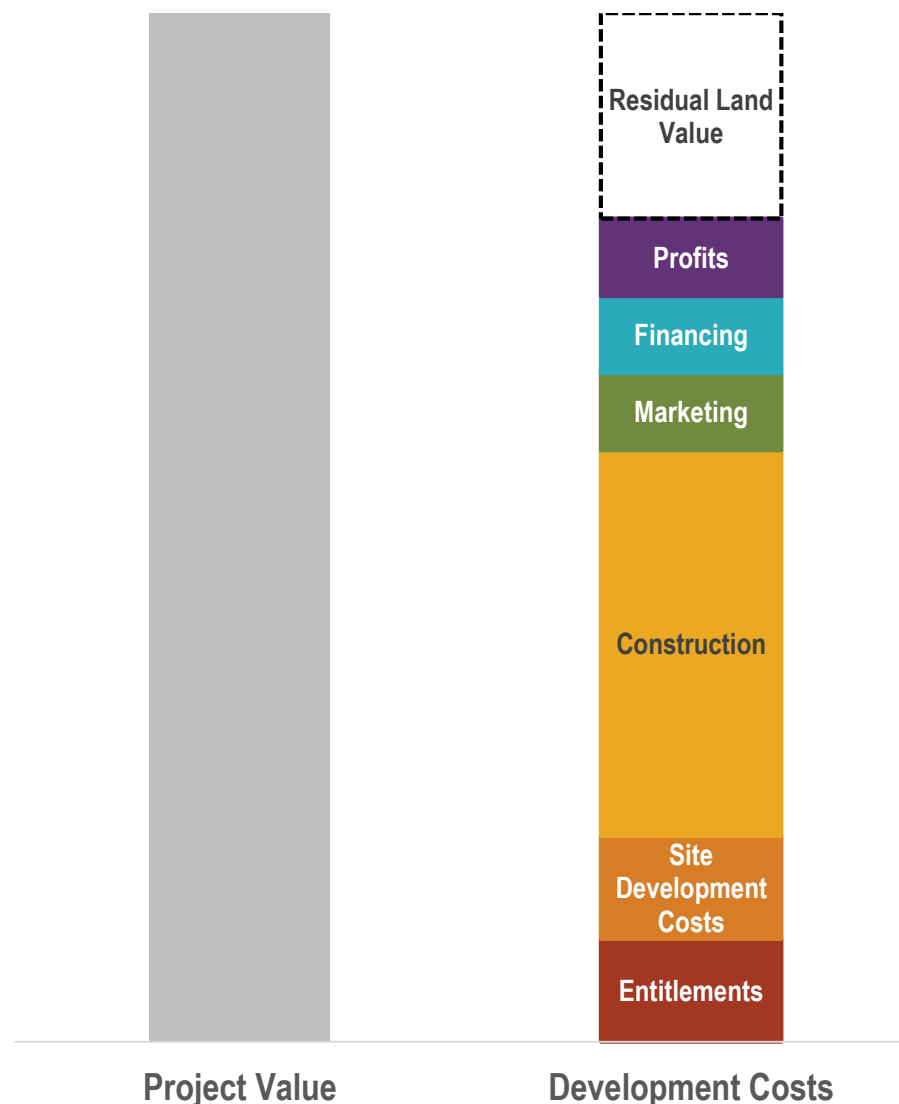
MIHU DEVELOPMENT FEASIBILITY

APPROACH TO LAND VALUATION

RCLCO CONDUCTED A “RESIDUAL LAND VALUE” ANALYSIS TO DETERMINE THE FEASIBILITY OF MIHU DEVELOPMENT

- ▶ Today, a large portion of the affordable housing production in Howard County is accomplished by requirements to reserve a portion of units in new market-rate developments for moderate-income households at a reduced rent or purchase price (“Moderate Income Housing Units,” or MIHUs).
- ▶ However, in some cases MIHUs may not be financially feasible for developers to construct on their own, and there are therefore certain instances when it may be necessary for the County to provide other options in order for development to proceed. Specifically, Howard County currently allows developers of single-family detached and/or age-restricted housing developments to pay a fee in lieu (“FIL”) instead of providing the units on-site, which is a common practice in many other jurisdictions as well.
- ▶ In order to examine the importance of this practice, RCLCO conducted a residual land value analysis, with the goal of determining the feasibility of MIHU development.
 - » Residual valuation is the process of valuing land with development potential. The value of a parcel of land available for development can be calculated from the value of the completed development minus the costs of the development (including profit).
 - » A potential project is said to have a “positive” land value if the costs of the project are less than the anticipated value of what is built. Conversely, a development concept with “negative” land value has projected costs that are larger than the capitalized value of the project.

Illustration of How Residual Land Value is Determined, March 2021;
Hypothetical Single-Family Development in Howard County

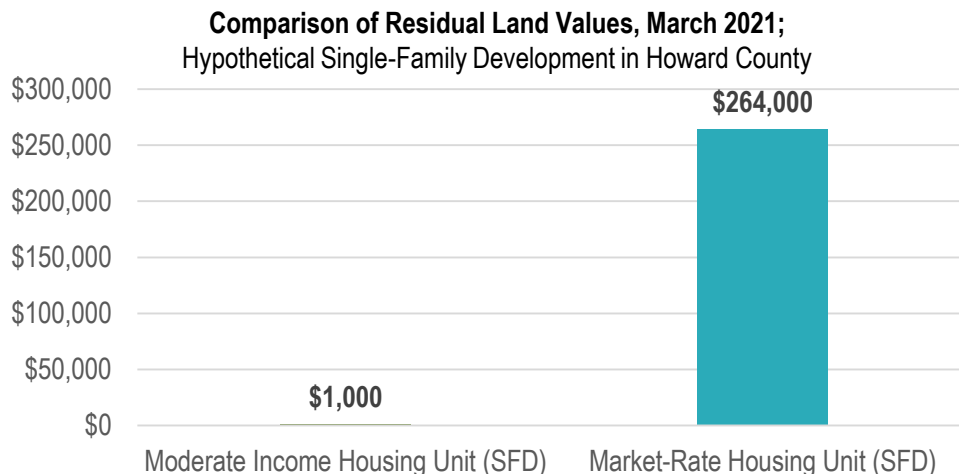


Source: RCLCO

LAND VALUE ANALYSIS

A RESIDUAL LAND VALUE ANALYSIS SUGGESTS THAT, FOR MIHU DEVELOPMENT TO BE FEASIBLE ON ITS OWN, THE DEVELOPER WOULD NEED TO OBTAIN THE LAND AT ROUGHLY NO COST

- A residual land value analysis for the most expensive single-family detached MIHU allowable under current County policy produces a land value of \$1,000 per unit. In other words, a developer would need to be able to acquire the land for only \$1,000 in order for the development to be feasible on its own, after considering site development costs, construction costs, financing costs, etc. that are necessary for development to occur.
- Conversely, a typical market-rate single-family detached housing unit produces a land value of \$264,000 per unit. In other words, this analysis suggests that an undeveloped and unfinished lot on which a typical single-family detached home could be built is worth approximately \$264,000 in Howard County.
- » For MIHU development to be feasible at this price point, this analysis suggests the MIHU would need to sell for approximately \$299,000 higher than the maximum allowable price at this time.



Residual Land Value Analysis, March 2021; Hypothetical Single-Family Development in Howard County

	Moderate Income Housing Unit (SFD)		Market-Rate Housing Unit (SFD)	
Program, Scope & Timing				
Key Assumptions				
Average Unit Size ¹	1,820 SF		3,600 SF	
Price PSF ¹	\$203		\$258	
Income and Value				
Sales Price	\$369,311	\$369,311	\$930,000	\$930,000
Less: Selling Costs/Commissions	5.0%	(\$18,466)	5.0%	(\$46,500)
Less: Closing Costs	2.0%	(\$7,386)	2.0%	(\$18,600)
Value	\$343,459		\$864,900	
Development Cost and Profit				
Site Development Costs (Per Unit)	\$75,000		\$75,000	
Construction (per GSF)	\$80	\$145,600	\$80	\$288,000
Field Supervision (% of Construction Cost)	6.0%	\$8,736	6.0%	\$17,280
Hard Contingency (% of subtotal)	5.0%	\$7,280	5.0%	\$14,400
Hard Costs Subtotal	\$161,616		\$319,680	
Arch/Eng/Consultants (% of hard)	5.0%	\$8,081	5.0%	\$15,984
Permits/Fees/Taxes (% of hard)	7.0%	\$11,313	7.0%	\$22,378
Legal/Bonds/Insurance (% of hard)	1.5%	\$2,424	1.5%	\$4,795
Overhead/Developer Fee (% of hard/soft)	4.5%	\$8,953	4.5%	\$18,059
Marketing (% of value)	4.0%	\$13,738	4.0%	\$34,596
Soft Contingency (% of subtotal)	5.0%	\$1,778	5.0%	\$3,888
Soft Costs Subtotal	\$37,334		\$81,640	
Max LTV/LTC	75.0%	\$155,927	75.0%	\$314,535
Average Balance (% of total loan)	50.0%	\$77,964	50.0%	\$157,267
Interest Rate	5.0%	\$3,898	5.0%	\$7,863
Term (Months)	18	\$5,847	18	\$11,795
Loan Fees	1.5%	\$2,339	1.5%	\$4,718
Financing Costs	\$8,186		\$16,513	
Developer Net Profit (% of Hard+Soft+Financing)	15.0%	\$51,369	15.0%	\$90,158
Total Net Cost + Profit	\$342,458		\$601,051	
Project Residual Land Value	\$1,000		\$264,000	

¹ Market-rate unit sizes and prices reflect the average for all new construction single-family detached homes available for sale in Howard County as of January 26, 2021. Moderate Income Housing Unit sizes and prices reflect those of the highest priced MIHU currently allowable under County policy.

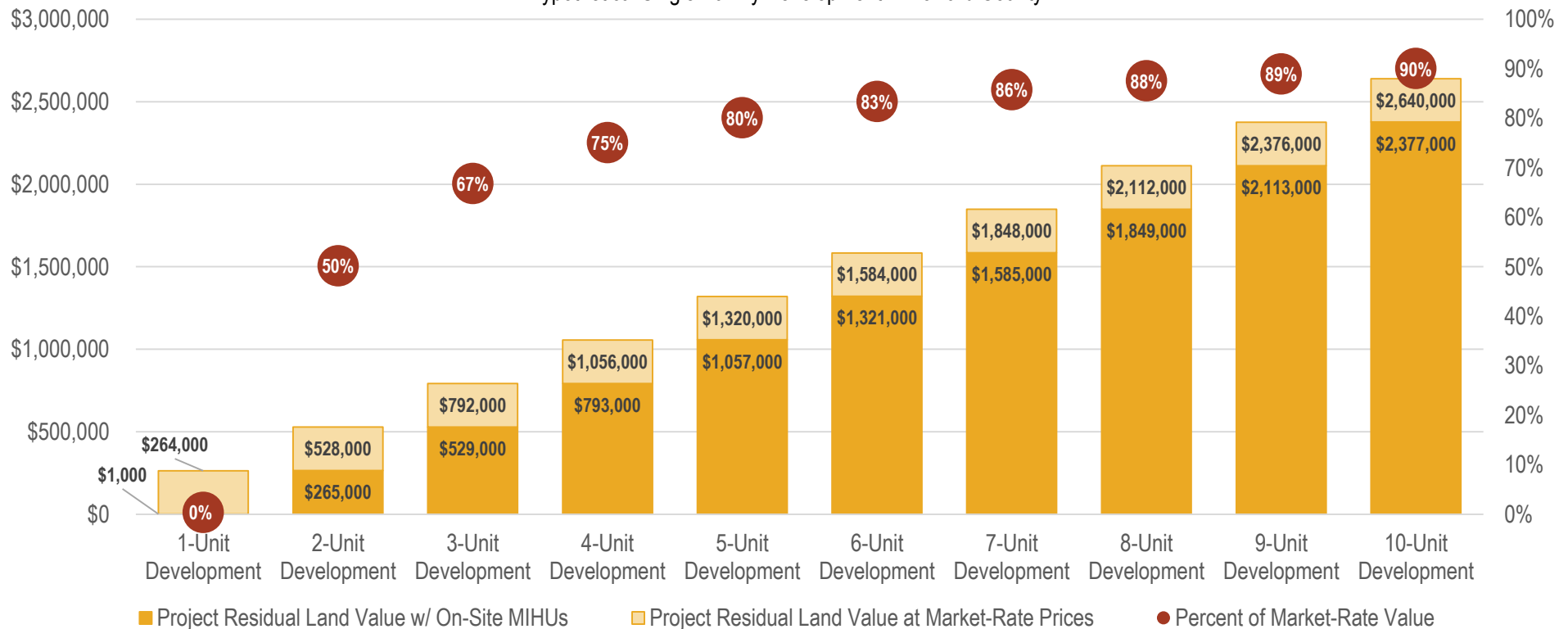
Source: Howard County Department of Housing and Community Development; Redfin; Interviews with local developers and practitioners; RCLCO

IMPLICATION FOR SMALLER DEVELOPMENTS

THE LAND VALUE ANALYSIS SUGGESTS THAT IT IS PARTICULARLY CHALLENGING TO PROVIDE ON-SITE MIHUS IN THE CASE OF SINGLE-FAMILY DETACHED HOUSING DEVELOPMENTS, AS WELL AS SMALLER-SCALE HOUSING DEVELOPMENTS

- The gap is particularly wide in the case of single-family detached developments, for which the price differential between a MIHU and a market-rate housing unit is greater than it is for other, generally less expensive types of housing, as well as smaller-scale housing developments, in which there are fewer housing units with which developers are able to offset the cost of building housing at below-market rates.
- Please see below for an illustrative example of the second scenario, which assumes one MIHU no matter the scale of the development.

Comparison of Project Residual Land Value by Development Size, March 2021;
Hypothetical Single-Family Development in Howard County



Source: RCLCO

DISCLAIMERS

CRITICAL ASSUMPTIONS

Our conclusions are based on our analysis of the information available from our own sources and from the client as of the date of this report. We assume that the information is correct, complete, and reliable.

We made certain assumptions about the future performance of the global, national, and local economy and real estate market, and on other factors similarly outside either our control or that of the client. We analyzed trends and the information available to us in drawing these conclusions. However, given the fluid and dynamic nature of the economy and real estate markets, as well as the uncertainty surrounding particularly the near-term future, it is critical to monitor the economy and real estate markets continuously and to revisit the aforementioned conclusions periodically to ensure that they are reflective of changing market conditions.

It has become increasingly clear that the U.S. economy is in a recession, and yet the extent of the damage to the economy and the ability to rebound from a still unfolding disruption are unknown. These events underscore the notion that stable and moderate growth patterns are historically not sustainable over extended periods of time, the economy is cyclical, and real estate markets are typically highly sensitive to business cycles. Further, it is particularly difficult to predict inflection points, including when economic and real estate expansions will end, and when downturn conditions return to expansion.

Our analysis and recommendations are based on information available to us at the time of the writing of this report, including the likelihood of a downturn, length and duration, but it does not consider the potential impact of additional/future shocks on the national and/or local economy, and does not consider the potential benefits from major "booms" that may occur. Similarly, the analysis does not reflect the residual impact on the real estate market and the competitive environment of such a shock or boom. Also, it is important to note that it is difficult to predict changing consumer and market psychology. As such, we recommend the close monitoring of the economy and the marketplace, and updating this analysis as appropriate.

Further, any project and investment economics included in our analysis and reports should be "stress tested" to ensure that potential fluctuations in revenue and cost assumptions resulting from alternative scenarios regarding the economy and real estate market conditions will not cause unacceptable levels of risk or failure.

In addition, and unless stated otherwise in our analysis and reports, we assume that the following will occur in accordance with current expectations by market participants:

- ▶ Tax laws (i.e., property and income tax rates, deductibility of mortgage interest, and so forth)
- ▶ Availability and cost of capital and mortgage financing for real estate developers, owners and buyers
- ▶ Competitive supply (both active and future) will be delivered to the market as planned, and that a reasonable stream of supply offerings will satisfy real estate demand
- ▶ Major public works projects occur and are completed as planned

Should any of the above change, this analysis should be updated, with the conclusions reviewed accordingly (and possibly revised).

GENERAL LIMITING CONDITIONS

Reasonable efforts have been made to ensure that the data contained in this study reflect accurate and timely information and are believed to be reliable. This study is based on estimates, assumptions, and other information developed by RCLCO from its independent research effort, general knowledge of the industry, and consultations with the client and its representatives. No responsibility is assumed for inaccuracies in reporting by the client, its agent, and representatives or in any other data source used in preparing or presenting this study. This report is based on information that to our knowledge was current as of the date of this report, and RCLCO has not undertaken any update of its research effort since such date.

Our report may contain prospective financial information, estimates, or opinions that represent our view of reasonable expectations at a particular time, but such information, estimates, or opinions are not offered as predictions or assurances that a particular level of income or profit will be achieved, that particular events will occur, or that a particular price will be offered or accepted. Actual results achieved during the period covered by our prospective financial analysis may vary from those described in our report, and the variations may be material. Therefore, no warranty or representation is made by RCLCO that any of the projected values or results contained in this study will be achieved.

Possession of this study does not carry with it the right of publication thereof or to use the name of "Robert Charles Lesser & Co." or "RCLCO" in any manner without first obtaining the prior written consent of RCLCO. No abstracting, excerpting, or summarization of this study may be made without first obtaining the prior written consent of RCLCO. This report is not to be used in conjunction with any public or private offering of securities or other similar purpose where it may be relied upon to any degree by any person other than the client without first obtaining the prior written consent of RCLCO. This study may not be used for any purpose other than that for which it is prepared or for which prior written consent has first been obtained from RCLCO.





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